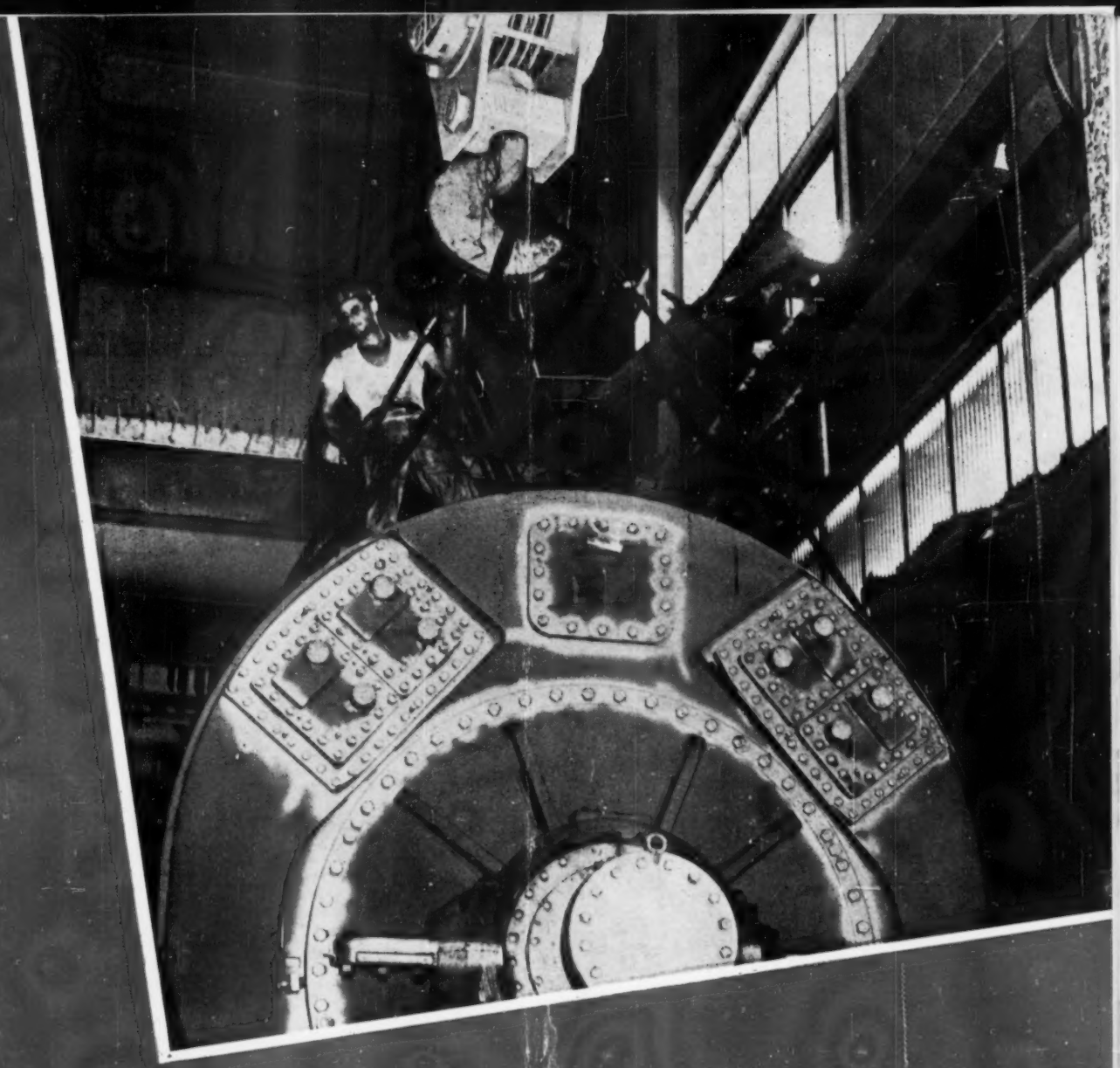


Safety Maintenance and Production

EST. 1901 AMERICA'S PIONEER MAGAZINE IN ITS FIELD

FIFTY CENTS DECEMBER, 1954

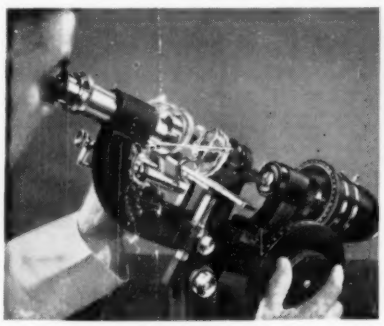
Why You Need Professional Services at Every Step

to make your Eyecare Program Produce!

In your plant, you would hesitate before placing a lathe operator at a drawing board or a draftsman at a lathe. In this age of specialization, each to the job he does best.*

However, in industrial prescription eyecare, there have been occasions where ALL the necessary services have not been performed by the only people competent to perform them — the specialists in eyecare. In these instances, industry has not received the maximum benefits of a visual correction program which can only come when the safety prescription glasses are verified, correctly positioned and comfortably fitted by a professional specialist. These *professional* responsibilities are as necessary as the earlier steps of *professional* examination, refraction and prescription.

Corrective-protective glasses made by American Optical Company meet all safety requirements. Super Armorplate lenses carry this mark AO† indicating that they are heat-strengthened and meet rigid specifications for thickness and impact resistance. Frames are made of corrosive-resistant metal or non-flammable plastic and are designed to provide the finest in safety equipment. They also carry the AO† trademark. Always look for it!



You as Safety Director know the value of adequate professional services in prescription eyecare and the high quality standards maintained by AO in the manufacture of lenses and frames. Visual safety programs under your supervision will pay off to the greatest degree in accident prevention, improved worker output and lowered costs when you combine the complete services of eyecare specialists with the finest in eyecare materials.

*Safety is our business — and the business of Industry. Examination, refraction, verification and the fitting of prescription glasses are the responsibilities of the professions.

American Optical

†T.M. Reg. by American Optical Company

SAFETY PRODUCTS DIVISION
SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

(Use Key # Z-1 on Inquiry Card on page 73)

Sure you're sure of—
BETTER SEEING
for

with
K-LENS-M
REG U.S. PAT. OFF.

The Acknowledged Leader in the Lens Cleaning Field

K-LENS-M Liquid Lens Cleaner cleans both *glass and plastic* safety goggles and shields quickly and easily . . . with no filming or scratching. A drop of K-LENS-M Anti-Fogging Liquid keeps them free of fog for the entire workday. Factory workers prefer K-LENS-M for eye-safety equipment because it removes dirt, fog, smears. Endorsed by safety engineers and used by leading companies throughout the world.

The K-LENS-M Lens Cleaning and Anti-Fogging Station encourages your employees to practice eye-safety. This compact, efficient, and economical goggle cleaning unit contains the K-LENS-M Lens Cleaning Liquid; K-LENS-M Lint-free lens tissues with sanitary disposal space for used tissues; and K-LENS-M Anti-Fogging Attachment.

Send for FREE sample of K-LENS-M liquids on your company letterhead.

THE **WILKINS** CO., INC. Cortland 2, N. Y.

(Use Key # Z-2 on Inquiry Card on page 73)

Published by Alfred M. Best Company, Inc., Publication Office, Columbia Turnpike, Box 232, Rensselaer, N. Y. Editorial and General Offices, Best Building, 75 Fulton St., New York 38, N. Y. Entered as Second Class Matter at Post Office at Rensselaer, N. Y. Under Act of March 3, 1879. Subscription rates, $4.00 Per Year in the United States; $5.00 in Canada; Foreign, $5.00. Single Copies, 50 cents. Publication Date 1st.

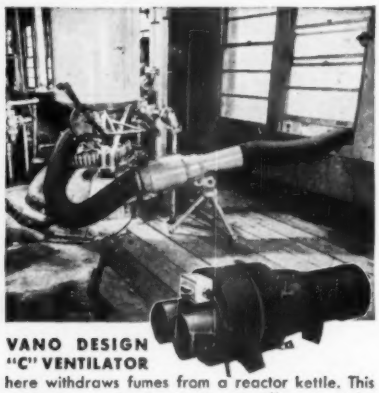
COPPUS "BLUE RIBBON" VENTILATORS

Used in wide variety of applications throughout industry

Improve workers' safety . . . health . . . comfort . . . efficiency

VANO DESIGN "A" VENTILATOR is used here during repairs to a chemical still. This type ventilator is used to ventilate tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages and other confined places. Uses 8″ diameter flexible canvas tubing ("Ventube").

VANO DESIGN "B" VENTILATOR here discharges welding fumes from double-bottom compartment in naval vessel under construction. Large volume of air handled quickly expels fumes and results in good ventilation. Vano Design "B" can pass through opening only 14″ in diameter. Uses 8″ diameter flexible canvas tubing ("Ventube").



VANO DESIGN "C" VENTILATOR here withdraws fumes from a reactor kettle. This ventilator can be furnished with 8″ suction inlet for 8″ non-collapsible suction tubing — or multiple inlet nozzles for 5″, 4″, and 3″ suction hose. The discharge may be connected to 8″ "Ventube." Capacities furnished on request.

NO. 2 AEROPLANE HEAT KILLER here directs cool, fresh air on worker in drop forge plant. Heat killers restore workers' efficiency by providing extra ventilation in the hot months, or on any job where workers are continually or periodically required to work in excessive heat. Available in two types, three sizes in each.

VENTAIR DESIGN TE-4 VENTILATOR Gasoline Engine Driven, here delivers air into underground manhole. These ventilators provide fresh air to men in confined places, promoting safety, comfort, and increasing efficiency. Ideal where no electric current is available. Delivers 1700 CFM of fresh air. Uses 8″ diameter flexible canvas tubing ("Ventube").

PORTAIR NO. 4 BLOWER EXHAUSTER exhausts fumes resulting from soldering, welding, tank coating, is also used in ventilating small tanks. It is designed to permit attachment of 4″ flexible metal hose. Capacity: 425 CFM free air.

ATTACH THIS COUPON TO YOUR COMPANY LETTERHEAD

COPPUS ENGINEERING CORPORATION, 332 PARK AVENUE, WORCESTER 2, MASS. Sales offices in Thomas' Register. Other "Blue Ribbon" Products in Chemical Engineering Catalog, Refinery Catalog, Best's Safety Directory and Mining Catalogs.

Please send me information on supplying fresh air to men working:

- ☐ in tanks, tank cars, drums, etc.
- ☐ in underground cable manholes
- ☐ in aeroplane fusilages, wings, etc.
- ☐ on coke ovens
- ☐ on steam-heated rubber processes
- ☐ on boiler repair jobs

COOLING:

- ☐ motors, generators, switchboards
- ☐ wires and sheets
- ☐ general man cooling
- ☐ around cracking stills
- ☐ exhausting welding fumes
- ☐ stirring up stagnant air wherever men are working or material is drying
- ☐ drying of walls, sheets, etc., after treated with coating material

Name .....

Company .....

Address .....

City .....Zone....State.....

Write here any special ventilating problem you may have { _____ _____

(Use Key # Z-3 on Inquiry Card on page 73)

12 reasons why Scott AIR-PAK is your best breathing equipment buy!

1. Ready for use in seconds, just turn on the valve and it's ready to go.
2. Clear visibility, cool air prevents fogging.
3. Simple to use. No complicated training. Anyone can use the AIR-PAK with complete confidence.
4. Uses fresh, cool AIR—not oxygen, for 100% protection in all breathing hazards, even explosive petroleum vapors.
5. Free and easy breathing under all conditions, even during extreme exertion.
6. Triple safe regulator design proven by hundreds of thousands of hours service.
7. Positive, constant check of available air supply with dependable luminous gage. No timer, no guesswork.
8. Full-vision face mask with diaphragm exhalation valve for clear conversation.
9. The AIR-PAK is all-purpose equipment, not just rescue apparatus.
10. Economical. Operates for as little as 50c per hour. There is no wasted air. Remaining supply may be saved for next time.
11. The AIR-PAK is completely independent of surroundings—safe in any atmosphere, in any concentration. Can even be used under water!
12. Proven. Thousands in use by industry and the fire services throughout the world.

WRITE TODAY FOR COMPLETE INFORMATION!

SINCE 1932 Scott FOR SAFETY - FOR SERVICE

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORP.

217 ERIE STREET LANCASTER, N. Y.

Canada: Safety Supply Co., Toronto — Branches in principal cities
Export: Southern Oxygen Co., 15 West 57th Street, New York 19, New York

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Columbia Turnpike, Rensselaer, N. Y.
Editorial and Advertising Offices:
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PRINTED IN U.S.A.

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Alfred M. Best Company, Inc.
75 Fulton St., New York 38, N. Y.

Annual Subscription $4 (two years $6)
Canadian & foreign $5 (two years $8)
Single issues 50c. Also quantity rates

SAFETY MAINTENANCE & PRODUCTION

FORMERLY "SAFETY ENGINEERING"
EST. 1901

VOL. 108, NO. 6 **DECEMBER, 1954**

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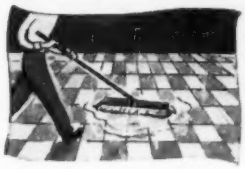
By courtesy of American Chain & Cable Co., Inc.

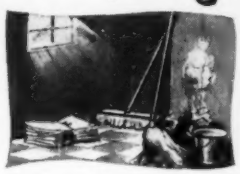
AMERICA'S PIONEER MAGAZINE IN ITS FIELD

SAFETY MAINTENANCE & PRODUCTION is indexed regularly by Engineering Index, Inc., New York

Why Risk Fire with an Oily Dressing?



Oily dressings with even a high flash point constitute a constant fire hazard in daily use.



Mops and rags saturated with such solutions when stored often cause spontaneous combustion . . .

Presenting an ever dangerous fire threat and possible serious harm to workers and property.

HIL-SWEEP maintains floors the FLAME-PROOF way!

fire tests *PROVE* HIL-SWEEP will NOT BURN

- Rags saturated with Hil-Sweep will not burn or cause spontaneous combustion.
- Eliminates fire hazard in use.
- Safe in storage — Won't freeze at low temperatures. Won't explode at high temperatures.

. . . on your staff,

not your payroll.

AND LOOK AT THESE OTHER HIL-SWEEP ADVANTAGES

- Hil-Sweep is non-injurious to asphalt tile . . . the result of years of research to develop a maintainer that would be safe for daily care of resilient and all other types of floors.
- You can spray it or sprinkle it on brush, mop or dust cloth.
- Contains no emulsified oil—leaves no oily residue to darken, discolor, soften or bleed colors.
- Will not soften wax film or decrease frictional resistance.
- Won't load mop like other floor dressings. After using simply shake out brush or cloth and it's ready to use again. Saves on laundry and dry cleaning bills.
- Leaves floors cleanly fresh and dust-free, then evaporates.
- Imparts a pleasant aroma where used.

Your Hillyard Maintaineer will help you with any Floor Problem
Branches in Principal Cities.

MAIL COUPON TODAY

Hillyard Chemical Co., St. Joseph, Mo.

☐ Please give me full information on Hil-Sweep.

☐ Please have the Hillyard Maintaineer make a Hil-Sweep demonstration on my floors. No charge.

Name.....

Title.....

Institution.....

Address.....

City.....

State.....

It's Safe to Say

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★ EDITORIAL RESPONSIBILITY

FOR every news item describing products, devices, equipment or procedures published in the columns of SAFETY MAINTENANCE, much material of doubtful value is rejected.

In company with most publications, we are on the receiving end of our share of crackpot ideas, screwball designs and panaceas for all the ills of mankind. Strangely enough, frequently some of the material necessarily rejected has the germ of a good idea or can be developed into a practicable plan to minimize accidents. However, space limitations as well as the tests of time must be deciding factors in evaluating data presented to our subscribers.

On the other hand, it is often assumed that devices or products described in our pages automatically bear the guarantee or at least the endorsement of the editors. Nothing could be farther from the truth.

Obviously, this publication maintains no testing laboratories nor can the editors undertake to track down in person every phase of the manufacture or every test made in behalf of the thousands of products covered in articles and news releases submitted every year. It should be equally obvious, however, that all reasonable care is taken to investigate the standing of individuals or the company marketing a product as well as to ascertain the experience of users. Moreover, where there are appropriate testing procedures, we require a copy of the laboratory test reports to protect our readers as far as possible against patently fraudulent claims. And a false sense of security can be just as serious as deliberate deception.

In accordance with long-standing editorial policy spanning several decades, new products, devices, equipment and procedures are presented to our readers solely as a matter of information. Other reputable publications necessarily must adopt the same policy.

An instance in point often occurs in the case of one of the most widely read digest magazines. From time to time, there have appeared within its pages startling and dramatic material on the development of antibiotics—the so-called wonder drugs. Naturally, their editors cannot accept responsibility if a small segment of their audience views the data as answers to individual prayers or as a cure-all for every conceivable ailment. The factors of personal allergies, physical condition, immunity, etc., must be considered. We all know that what's one man's meat is another man's poison. Therefore it is fortunate that the Federal government surrounds the general public with certain safeguards to prevent indiscriminate consumption of—say, penicillin or the barbituates which have their rightful place in medical practice.

SAFETY MAINTENANCE owes its first obligation to its readers who pay for their subscription in order to be kept fully informed of developments in this field. The editors will continue to discharge that obligation by informing readers concerning the existence of products *designed and intended* to control accidents, fires and industrial ailments. Nevertheless, no implication of endorsement or guarantee is intended nor should there be any subscriber's inference of publisher's responsibility, endorsement or approval.

Further, a degree of realism is suggested in exploring the future possibilities of new products or equipment. We can exercise constructive skepticism without splitting hairs. If naturally biased manufacturers employ phrases such as "fire-proof," "anti-slip," "unbreakable," "water-proof," etc., now in common use, actually what is meant is "fire-proof under certain conditions" or "anti-slip to certain degrees" since Utopia in fire prevention and safety, as every safety director is aware, still is a long way off.

★ S-D (SAFE DRIVING) DAY

WEDNESDAY, December 15, designated "S-D Day" by President Eisenhower's Action Committee for Traffic Safety, is a day to demonstrate that traffic accidents can be reduced materially when all motorists, fleet operators and pedestrians do their part. The goal of S-D Day is to have every community in the country remain completely free of traffic accidents for a 24-hour period. An ordinary day, neither on a week-end nor holiday, December 15th was chosen to emphasize the fact that traffic safety is an everyday possibility.

In response to President Eisenhower's appeal, 31,000 members of the National Automobile Dealers Association join with other community, safety and civic leaders everywhere in urging every driver and pedestrian to observe the letter and spirit of all traffic regulations; to be courteous to every other motorist and pedestrian; to give full attention to safe driving and safe walking. Safety directors can lend their valuable influence in making S-D Day a great success. H. A.

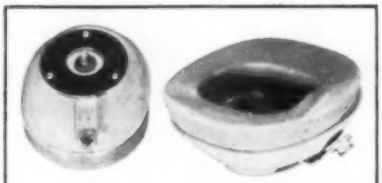
RACKET is hushed—but speech is HEARD with this NEW M·S·A EAR PROTECTION

Here is the modern answer to the problem of industrial noise which can often set the stage for accidents, work slow-downs, and loss of hearing.

Developed as the result of years of intensive research, the M.S.A. Earsaver provides that all-essential seal with the wearer's face that assures effective over-the-ear noise protection. This device comes in two styles:

1. The M.S.A. Earsaver, an open-weave cotton gabardine headgear cap assembly for persons exposed continuously to a relatively high level of noise.
2. M.S.A. Noisefoe, a head-set suspension type, for persons who must enter noisy areas for brief intervals then return to normal noise levels. This device is quick and easy to put on, take off.

Both models are light and comfortable, well balanced to eliminate work fatigue. Write today for complete construction details on this important M.S.A. development.



Ear cavity for cushion was designed from U. S. Air Force Aero Medical Laboratory statistics to provide comfortable fit for all ears. Cushion has wide sealing area for maximum attenuation. Cushion is of soft, flexible sponge material that resists oil, adapts to all facial contours. Easy to keep clean. Molded fiber-glass plastic outer cup protects cushion, holds it in place.

ALSO... M·S·A EAR DEFENDERS

Lightweight, tapered tubes, molded from special, soft, non-toxic elastomeric material. These devices give a perfect closure of the ear canal, yet are easily fitted and comfortable. Three sizes available to assure perfect fit. Plastic carrying kit fits in pocket, keeps Ear Defenders clean, and always ready for use. Write for details.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M.S.A. man on your every safety problem . . . his job is to help you

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States
MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, Sydney, N.S. • Representatives in Principal Cities in Mexico, Central and South America
Cable Address: "MINSAF" Pittsburgh

SERVING SAFETY 40 YEARS 1914 • 1954

(Use Key # Z-6 on Inquiry Card on page 73)

slips do count

Slips pile up your medical costs and compensation payments. They inflate your payrolls. (How much does it cost you to train and pay an unskilled substitute while an absentee victim's salary continues?)

Slips leave you wide open to law suits and, since they count against your Safety record, very likely increase your insurance premiums.

Isn't it time you were introduced to LEGSURE*, the *modern* Safety Floor Polish that reduces slip-fall accidents by up to 98%. LEGSURE gleams without *buffing*, minimizes *scuffing* and retains it slip-resistance for *months* without the need for stripping.

It saves you *Big tangible dollars*, too, on floor maintenance. Up to *25%* on material. Up to *50% on labor.*

Write today for full information on LEGSURE.

**Sold only by the LEGGE Company and its authorized representatives.*

WALTER G. LEGGE CO., Inc.

Dept. F-12, 101 Park Ave., New York 17, N. Y. Branch offices in principal cities. In Toronto— J. W. Turner Co.

LEGGE SYSTEM of Safety Floor Maintenance

(Use Key # Z-7 on Inquiry Card on page 73)

THE FUTURE SHOWS

Chicago, Ill. *Jan. 24–27*

Sixth National Plant Maintenance and Engineering Show (International Amphitheatre). Clapp & Poliak, Inc., Show Management, 341 Madison Ave., New York 17, N. Y.

E. Lansing, Mich. *Feb. 14–17*

Fourth Annual Industrial Ventilation Conference (Michigan State College). James C. Barrett, Michigan Department of Health, Division of Occupational Health, Old Dewitt Road, Lansing 4, Mich.

New Orleans, La. *Feb. 27–Mar. 1*

Southern Safety Conference and Exposition (Jung Hotel). W. L. Groth, Executive Director, P. O. Box 8927, Richmond, Va.

Philadelphia, Pa. *March 8–9*

Twenty-first Annual Philadelphia Regional Safety and Fire Conference and Exhibit (Broadwood Hotel). Walter W. Matthews, Managing Director, Philadelphia Safety Council, 17th & Sansom Streets, Philadelphia 3, Pa.

Houston, Texas *March 21–22*

Sixteenth Annual Texas Safety Conference (Rice Hotel). J. O. Musick, General Manager, Texas Safety Association, Inc., 830 Littlefield Bldg., Austin, Texas.

Pittsburgh, Pa. *March 29–31*

Thirtieth Annual Western Pennsylvania Safety Engineering Conference & Exhibit (Hotel William Penn). H. H. Brainerd, exec. manager, 605 Park Bldg., Pittsburgh 22, Pa.

Indianapolis, Ind. *March 30–31*

Eighth Central Indiana Safety Conference & Exhibit (Claypool Hotel). Indianapolis Safety Council, 320 N. Meridian St., Indianapolis, Ind.

Kansas City, Mo. *March 31–April 1*

Central States Safety Congress (Municipal Auditorium). George M. Burns, Director, Kansas City Safety Council, 419 Dwight Bldg., Kansas City 6, Mo.

New York, N. Y. *April 11–15*

Twenty-fifth Annual Greater New York Safety & Exposition (Hotel Statler). Harold C. Mesch, general chairman, Greater New York Safety Council, Inc., 60 E. 42nd St., New York 17, N. Y.

Niagara Falls, N. Y. *April 19–21*

Fifteenth Annual Western New York Safety Conference, in cooperation with the American Society of Safety Engineers (Niagara Hotel). Patsy E. Gismondi, Executive Secretary, 1436 Delaware Ave., Buffalo 9, N. Y.

Cleveland, Ohio *April 26–28*

Twenty-fifth Annual All Ohio Safety Congress & Exhibit (Hotels Cleveland and Hollenden). A. W. Moon, Congress Manager, Industrial Commission of Ohio, Safety & Hygiene Div., Columbus 15, Ohio.

Grand Rapids, Mich. *April 26–28*

Twenty-fifth Annual Michigan Safety Conference (Pantlind Hotel and Civic Auditorium). R. H. Goring, Executive Secretary, Michigan Bell Telephone Co., Detroit, Mich.

Chicago, Ill. *May 16–20*

Materials Handling Exposition (International Amphitheatre). Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

Winston-Salem, N. C. *May 18–20*

Twenty-fifth Annual North Carolina Statewide Industrial Safety Conference (Robert E. Lee Hotel). H. S. Baucom, Safety Director, North Carolina Industrial Commission, Raleigh, N. C.

Stonehouse SIGNS

FOR INDUSTRIAL ACCIDENT PREVENTION

SIGHT is a gift to be treasured. Yet carelessness too often robs the worker of this, his priceless possession.

Impress upon your employees the vital importance of protecting their eyes. Wearing goggles is one very sure way. Keep telling them—with the right signs, either stock or special worded.

STONEHOUSE SIGNS

The loss or impairment of hearing is another hazard. Protect your workers' ears from shattering, harmful noises in the plant. A worker who can't hear well is a real accident hazard.

If you haven't our complete Catalog—64 pages, in full color—it's free on request.

Stonehouse SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer
Denver 4, Colorado

"Signs Since 1863"

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

(Use Key # Z-8 on Inquiry Card on page 73)

SAFETY GOGGLES | SAFETY SPECTACLES

FORM FITTING COMFORTABLE

WATCHEMOKET eye SAVERS

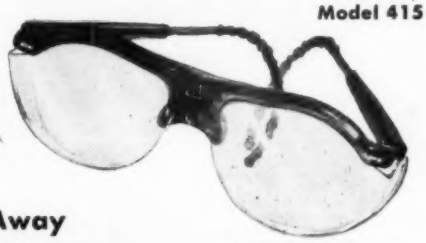
LIGHTWEIGHT EASY TO WEAR

Model 440SV Methacrylate Lens
Model 441SV Acetate Lens

Soft Vinyl Frame

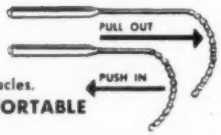
"Stac-Vent" — a new principle in goggle ventilation.
Clearer Vision . . . More Comfort . . . Greater Safety.
Large frame fits comfortably over all prescription glasses.
Lenses optically correct — shatterproof — easily replaced.
Also available with regular or screen ventilation.

Model 415

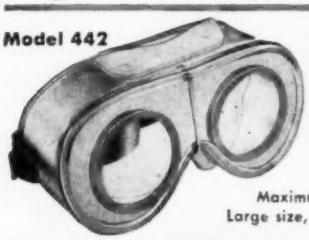


Tuc-Away

Shatterproof, optically correct lenses.
Easily replaced . . . snap-in, snap-out.
In clear, light, medium or dark green.
One size and model fits every worker.
Wearer adjusts and maintains his own spectacles.
WORN BECAUSE THEY ARE COMFORTABLE



Model 442



Soft Vinyl Frame
50 mm Round
Hardened Safety Glass Lenses

Maximum protection where there is extreme abrasion.
Maximum comfort and minimum weight.
Large size, fits over all prescription glasses.

Visor-Tuc

Model 422

New Over-Eyes Protection

Almost 100% protection, plus all the comfort of "Tuc-Away". "Visor-Tuc" fits snugly against the forehead.
Shatterproof Eye Savers lenses interchangeable in Tuc-Away Model.

Model 492

Welding Goggle
Opaque Black
Soft Vinyl Frame

Furnished with replaceable 50 mm round, Federal Specification, filter lens shades 3, 4, 5 or 6, protected inside and out by cover lenses.

Split Joint

Model 80

Split Joint Frame makes changing lenses a simple operation, no heating to distort frame. Retrax temple easily adjusted — One size Standard 47 mm drop eye lenses. Removable clip-on side shields available.

Quick, easy replacement of:
PLASTIC SAFETY LENSES
PRESCRIPTION LENSES
PLANO SAFETY GLASS LENSES

Model 99

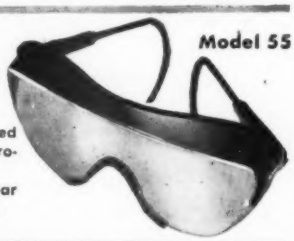
Cheepee One-Piece Goggles

Close fitting, lightweight, comfortable.
Optically correct . . . no distortion.
Available in clear or medium green.

Methaspec Eye Shield

Model 55

Optically correct, one piece, curved Methacrylate Eye Savers Lens provides heavy impact protection.
Lens is .080" thick, available in clear or light, medium and dark green.



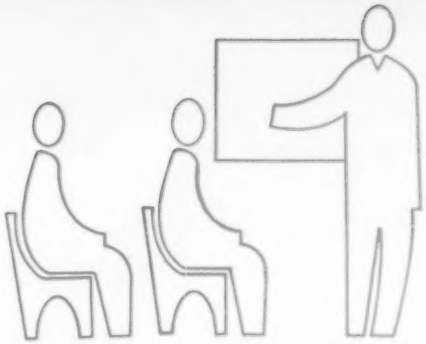
For details, see your Authorized Eye Savers Supplier or write direct

Quality Eye Protective Equipment ***Made by the Leaders in Plastics***

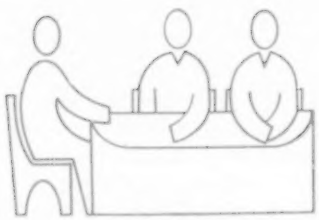
WATCHEMOKET OPTICAL CO., INC.

238 West Exchange St., PROVIDENCE 3, R. I. ***In Canada: Levitt-Safety Limited, Toronto 10, Montreal 26***

(Use Key # Z-9 on Inquiry Card on page 73)



42nd National Safety Congress



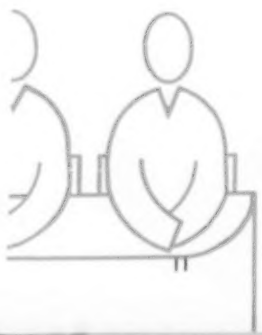
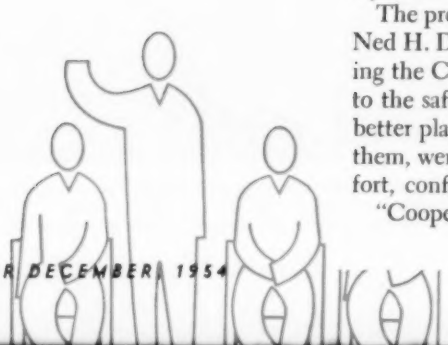
AMID A MASSIVE DISPLAY of safety equipment and protective devices the 42nd National Safety Congress welcomed thousands of outstanding visitors from the safety field to what is aptly called "the greatest safety show on earth." Hundreds of meetings, demonstrations, discussions, talks, round-tables, etc., informed the visitor on his particular interests. If you couldn't remember what you saw or heard, or didn't get a chance to take it down, transcripts of information were available and exhibitors furnished detailed literature to accompany their demonstrations.

The mood of the Congress was exuberant—perhaps naturally so, for a movement that had grown to such tremendous stature in industry in the last 50 years. Hope for higher and higher safety achievements filled the air, and confident slogans flew back and forth. The slogans were not empty sayings just to catch the listeners' ears, either. They were simple summaries of thoughtful, sober men who went on to explain fully the ideas that lay behind the bright packages of words.

The president of the National Safety Council himself, Ned H. Dearborn struck the keynote in his speech opening the Congress. He offered 6 rules of human behavior to the safety movement as a way to "make the world a better place in which to live." The 6 "C's", as he called them, were cooperation, consideration, cognizance, comfort, confidence and conduct.

"Cooperation," said Mr. Dearborn," means planning

(Continued on page 26)

Treating metals in hot oil is dangerous to the process operator because temperatures up to 2300 degrees are reached. The danger of splashing oil striking the worker is alleviated by the asbestos gloves, apron, and protective hood which are used on "hot" job.

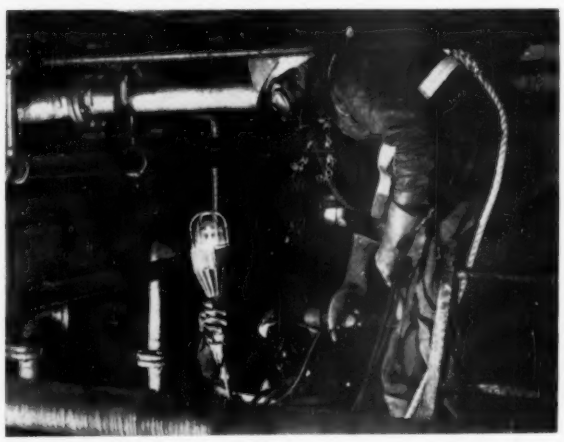
CLOTHES WITH

Worker in this picture is pointing to his safety shoe with good reason. It recently saved his toe from a crushing by a 50-pound steel bar similar to the one he is holding. The bar fell from a skid and landed on his foot. Result: shoe still in use, toe still operating perfectly, the bar still sound.

✓ PROTECTIVE CLOTHING SERIES
other articles in January & February

PROTECTIVE CLOTHING has always been right near the top of the list of ingredients for a successful safety program, but today, with the constant addition of new materials and new methods used in production, it is more important than ever. Safer machines with better guards there may be; more interest on the part of both management and employees there may be also; but without the proper safety clothing "safety" may become nothing more than a meaningless word applied to a meaningless program.

The number of toes that have been saved by safety shoes—the number of eyes protected by safety goggles or glasses—the number of people working away who should be crippled or dead except that they wore the



Two tank cleaners at a synthetic rubber plant go about their job in confidence, fully protected by supplied-air masks, hard hats, rubber gloves, boots, safety belts, ropes, and third man.

Woolen jacket, goggles and a terry cloth jacket protect a worker from hot oil splashes (which might reach temperatures of 400 to 500 degrees) as he dips collars out of hot oil tank. His safety-designed tong and job-training also help.

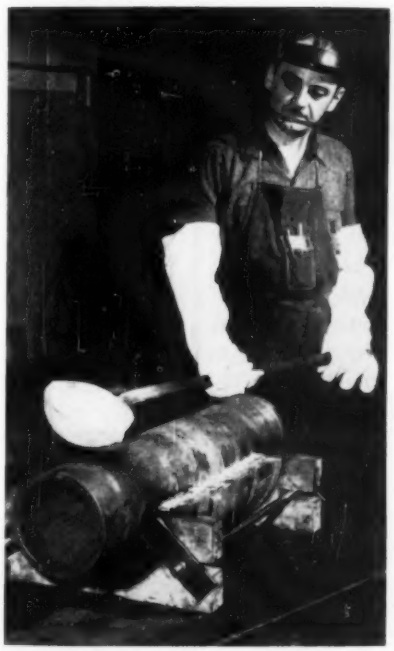
A CAPITAL "S"

(for "safety", of course)

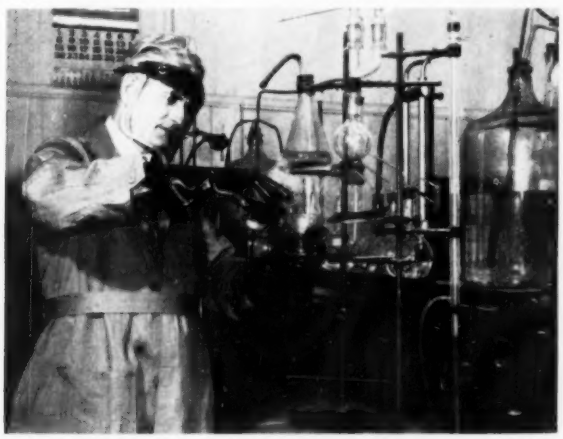
proper protective clothing when the accident happened —these numbers can never be adequately counted.

Any employee who has been saved from a serious injury will be a good witness on the value of wearing safety apparel. Hard hats, goggles, safety shoes, asbestos gloves and jackets, gauntlets, rubber aprons—all are designed to give the worker protection at just the time that he needs it.

On the other hand, the term "safe clothing" can also mean the absence of certain clothing which could be dangerous. There are several things that should not be worn around machinery, for example, since they could easily be caught in moving parts. Workers should not wear neckties, rings or jewelry, cuffs on trousers, or

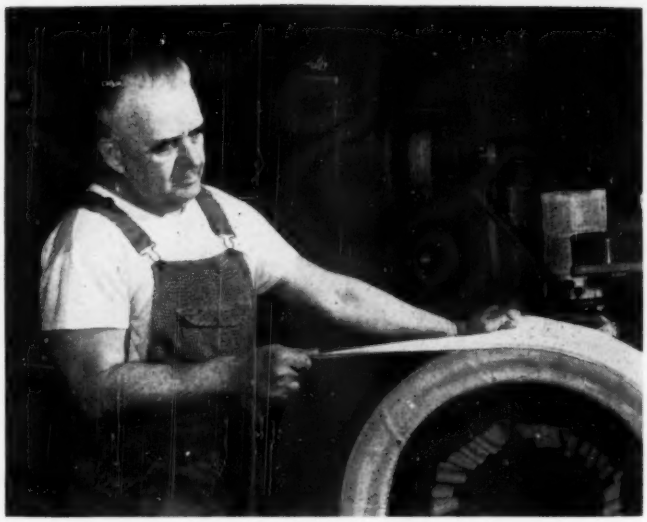


One of the most dangerous operations of this babbitt fire operator is pouring molten babbitt for guides used in rifle boring tools. The hot metal may splash or splatter on him so he wears a pair of gloves, a face shield, a protective apron, and asbestos gloves. Safety styling protects him.



A face shield, gauntlet rubber gloves and a lab coat of resistant material protect chemist. Splashes or fumes from chemicals or acids could cause him injury, without protection.

Safe clothing is important to the tire builder. Here, this worker wears proper clothing on the job—short sleeves, no jewelry, no tie. There is no loose clothing to catch on machinery. You can't see it, but he also wears safety shoes and has no cuffs on his overalls. His machine also helps him stay safe. It is equipped with a treadle guard to prevent the machine from starting if a tool falls toward the starter button. Gloves would only interfere with his work.



loose sleeves when working at any machine with moving parts.

Safety engineers are ever alert to design new, safe clothing, just as they are to work out safer ways of doing things. They try to keep safety clothing on the same high level as the advanced designs in machines and processes.

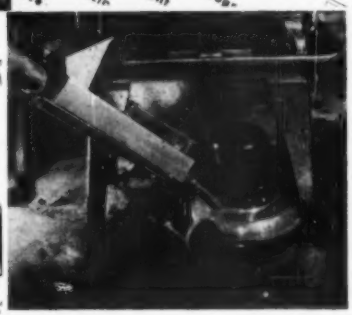
But, safety is everybody's business. Safe clothing alone cannot prevent an accident, any more than rules can enforce themselves. Each individual's safety is his own responsibility.

See the pictures on this and the preceding pages for examples of safe clothing safely used at the Firestone Tire and Rubber Co.

Tanks of acids are always a potential danger in a plant. When this worker's job calls for him to be around such a tank he wears clothing which completely guards him against any acid splashing or spilling on him. Protected from head to foot, he wears a hard hat, a face shield, goggles which give extra protection to his eyes, a pair of rubber gloves, a rubber coat, and a pair of boots. The job may be dangerous, but he's safe, if he follows safe operating procedure.

Protective apparel for employees working with machinery and moving parts is often simple, but essential. This woman employee works on a tube splicing machine with her hair protected by a bandana and wears no jewelry. The apron strings around her neck and waist will break easily if her apron should catch in the machinery. It is this type of training, which teaches you "what not to wear" which also fills an important place in the safety clothing part of a safety program.

Sanitation Cost Clinics...



dot the map!

A COAST-TO-COAST series of one-day cost control clinics on the organization of sanitation programs based on work standards will be conducted in 1955 by Industrial Sanitation Counselors. Last year the Louisville, Kentucky organization ran a series of one-day nationwide clinics on lowering floor maintenance costs by applying a work standard approach to the problem.

In announcing the new series, Mohe H. Solworth, president of the Counselors, explains that the clinics will be held in metropolitan centers throughout the country to be conveniently available to sanitation program administrators of industrial plants, food plants, institutions, public utilities, hospitals, schools, hotels, stores, etc.: in short, wherever the operation of a program warrants a cleaning staff and someone to direct them.

Commenting further on the clinics, Mr. Solworth observes that, since the administrator must have management support to do a good job, management representatives of firms or institutions are invited to attend. Others in the executive group who may be interested in the money-saving and quality-raising ideas presented by the clinic include personnel directors and purchasing agents.

Clinic Widely Applicable

It is stressed that the clinic subject matter will be applicable to all types of establishments. While the clinic will be ready to answer specific questions relating to individual plants or institutions, each registrant will be given a set of forms and work tools to use in developing or improving his own particular program. The erroneous notion on the part of some administrators that their operation is vastly different than a program in another type of industrial plant or institution has, according to Mr. Solworth, limited the development of effective sanitation control measures. The clinic will afford an opportunity for each registrant to pool his experience with others who face; in the main, the same basic problems: the systematic control and removal of hampering soil and disorder at lower cost.

Sanitation, the counselors' president points out, has been perpetuated into a sizable operating expense with not enough periodic analysis or modification. Sanitation cost, based on a 50 year life expectancy of a building, is actually one and one-half the original cost of the building itself under present conditions. It is estimated that American industrial plants and institutions spend each year approximately 2 and a half billion dollars on sanitation, for salaries, supplies, and operating costs. Mr. Solworth contends that more than 25 percent of this sum is squandered on wasted labor, inadequate materials, damage to surfaces by untrained workers, and neglect of

ordinary preventive sanitation work.

Although there are few figures on national cleaning costs, there is ample evidence that they have risen sharply since 1940. The Office Building Experience Exchange Report of the Building Owners and Managers Association of Philadelphia reveals that the annual building cleaning costs in that city have risen from 18.8 cents per square foot in 1940 to over 52 cents per square foot in 1953, a rise of about 275 percent.

Expense Unrecognized

The same report notes that the largest single item in operating costs of buildings is cleaning. And the cost is continuing to rise.

Too few companies recognize sanitation as an important operating expense. Actually, many do not really know their total sanitation costs because of the diffused distribution of sanitation services which are charged against the operating expenses of many departments. Also several services may be performed by outside contractors. If all the direct plant sanitation services were collected into one figure, the cost would command immediate management attention, according to Mr. Solworth.

Productivity Up; Maintenance Down

While productivity in industry is growing 3 times as fast as a century ago, the "man with the mop" is still swinging primitive tools in a tedious effort to combat the forces of insanitation. The annual rate of increase in manufacturing productivity was 25 per cent greater between 1940 and 1950 than between the preceding 30 years and 1940. In the same period, man-hour output has been doubled. Compared with this impressive use of science and technology in manufacturing, sanitation productivity has lagged markedly because of inertia. We have not begun to reach respectable production standards, Mr. Solworth contends, because we have not upgraded the basic factors contributing to a business-like approach to organized sanitation.

In a survey conducted last year by Industrial Sanitation Counselors among representatives of several hundred nationally-known companies and institutions, an attempt was made to determine what remedial measures were being taken to increase sanitation production standards. Among the categories contacted were industrial plants, food processing plants, newspaper plants, chemical plants, rubber plants, schools, hotels, hospitals, etc. Individual sanitation budgets ranged from 50 thousand dollars a year to several million dollars a year.

A checklist was distributed and explained to those who participated in the survey. Administrators were asked to note the systems and programs which they had in their sanitation program. No attempt was made to measure extent or quality. Answers to the checklist merely indicated that the participants did or did not possess the requirements of an organized program, conceived to be basic by the Industrial Sanitation Counselors.

Check List Questions

Here are the questions on the checklist used in the survey:

1. ***Standards for all Operations.*** Do you have standards against which you measure your production, quality, supervision, sanitors and supplies?

2. ***Work Output Program.*** Do you determine your manpower needs by a workload study? Do you have standard rates for all cleaning operations? Do you use written work-schedules? Do you have plans for increasing productivity in each operation?

3. ***Cost Control System.*** Do you know how much your entire operation costs? Do you record monthly breakdowns? Do you maintain progress charts?

4. ***Quality Control Program.*** Do you periodically determine quality on a numerical basis?

5. ***Supervisory Development Program.*** Do you know how well you are performing your job? Have you a tool for grading yourself? Have you a program for self-development?

6. ***Sanitation Worker Development Program.*** Do you know exactly how much each worker contributes to the over-all sanitation effort? Do you have a numerical grading system for determining his effectiveness? Do you have a training program? Do you have a work interest development program?

7. ***Management Development Program.*** Do you have a management communication program? Is management fully aware of the sanitation operation and its potentialities? Is management actively supporting your program?

8. ***Work Tools Improvement Program.*** Does your program have the full complement of the best work tools? Do you maintain an active program of testing and research to insure continuous improvement? Do you have a controlled maintenance program for the care of equipment?

9. ***Personnel Participation Program.*** Are your plant workers sanitation conscious? Do you have a sustained program to encourage cooperation? Are they participating in the sanitation operation?

10. ***Preventive Sanitation Program.*** Do you have a program for reducing the soil-load? Do you have plans prepared for facilitating the cleaning of certain areas in case of remodeling or rebuilding?

Replies to the survey were as follows:

10 checks	1
9 "	0
8 "	5
7 "	2
6 "	6
5 "	8
4 "	8
3 "	12
2 "	22
1 "	18
0 "	247

Less than 7 percent of the companies surveyed had 5 or more checks which would indicate a strong, well-functioning sanitation program. Eighteen per cent had a modest start toward such a program. **But the vast majority, 75 percent, were unable to give themselves any checks at all!**

Primarily, the clinic will be a practical work session that goes step by step through the problems and obstacles of a modern, functioning operation. Starting with the general and basic difficulties encountered by the sanitation administrator, Mr. Solworth and his staff will demonstrate how they can be met and corrected systematically. Registrants will be shown how to determine exactly how much work there is. They will be given Standard Time Lists for all operations. They will be shown how to schedule work assignments. And they will be furnished tools to measure numerically the quality of their cleaning. Finally, the clinic staff will take up ways of measuring and developing the supervisor and the worker on the job; and they will provide tested forms which are designed to simplify this task.

The clinic presentation will be replete with illustrative material which will be shown on two projectors. A number of recently developed process forms, graphs and other sanitation cost-control work aids will be shown for the first time, along with an assortment of color slides of outstanding present-day operations. Plans call for eliminating the traditional platform and arranging work tables around the speaker in a U-shape, almost like a theatre-in-the-round. It is hoped that this will provide an intimate meeting with lively rapport.

The clinic registration fee will be 15 dollars per person; 12 and a half dollars for those who come from an institution or firm sending 10 or more.

Program: Organizing a Sanitation Program Based on Work Standards

Morning

9:00 to 9:30 SANITATION TODAY
National facts and figures: costs, production, quality. Basic elements of every sanitation program. Five major drawbacks. Why Cost Control?

9:30 to 10:30 INSTALLING A WORK STANDARDS PROGRAM
Program check list. Problems of average program. Work Standards Program: To Measure Is To Know. How to build a program step by step. Marshalling the Forces.

10:30 to 11:00 DETERMINING THE WORK LOAD
Systematic organization of work load for every area: PROCESS SHEET. Time rates for cleaning operations: MASTER OUTPUT CHARTS ON DRY AND WET FLOOR CLEANING. Explanation of conditions with case studies. Illustration of uses. Other Standard Time Lists.

11:00 to 11:30 SCHEDULING REALISTIC WORK ASSIGNMENTS
WORK ROUTINE FORM. Equal distribution of a fair day's work. Sequence of areas and operations. Supplementary time. Saving hours: Three stages. "Loose" schedules. Flexibility. Gang cleaning versus individual stations. Sanitor reactions.

11:30 to 12:30 QUALITY, THE END PRODUCT OF SANITATION
Numerical measurement of quality. Measuring quality in dollars. The rating program. SUPERVISOR'S DAILY CHECK LIST. CORRECTION MEMO. RATING FORMS: Explanation; rating of meeting room; weighing factors for importance; setting of standards. Area maps. Competitive uses of Rating Forms to raise levels: with departments, staff, management. Examples of Actual Rating Programs.

Afternoon

1:45 to 2:30 SUPERVISOR AND SANITOR
Measuring and developing the supervisor: SELF-RATING FORM. Making a giant out of a janitor: application of work incentives—illustrations of practical methods. Reducing work loads: corrective and preventive sanitation. Union Relations. Measuring the sanitor: PERSONNEL GRADING FORM.

2:30 to 3:00 SELECTION OF CLEANING TOOLS
General principles. Specific considerations. Examples: detailed examination of typical floor tools.

3:00 to 3:30 MODERN METHODS OF CLEANING
Time and labor-saving studies: Basic Cleaning Procedures. Patterns of attack. STANDARD CLEANING METHODS: sources, development.

3:30 to 4:30 MODERN CLEANING PRODUCTS
The 95% labor and 5% products ratio. The disease of "Low Price." Real value: PRODUCT RATING SCORE, explanation and use. Service of supplier: confidence, help, research. The fully equipped sanitor: saver of dollars. Materials control. CARE AND MAINTENANCE CHARTS for sanitor training. Storage and dispensing of supplies. SUPPLY CABINET DESIGN.

4:30 to 4:45 SUPERVISOR REPORTS TO THE BOSS
Sanitation Report: What to report and how to do it. GRAPHS, CHARTS, FORMS.

4:45 to 5:30 RESULTS OF COST CONTROL-WORK STANDARDS PROGRAM
Measuring results: SANEFFICIENCY CURVE. Growth of company, staff, supervisor. Expected compensation to reward performance. Cost Control achievements in current programs: production rates doubled, increasingly high quality levels, 25% budget reductions.

A Man Among Men

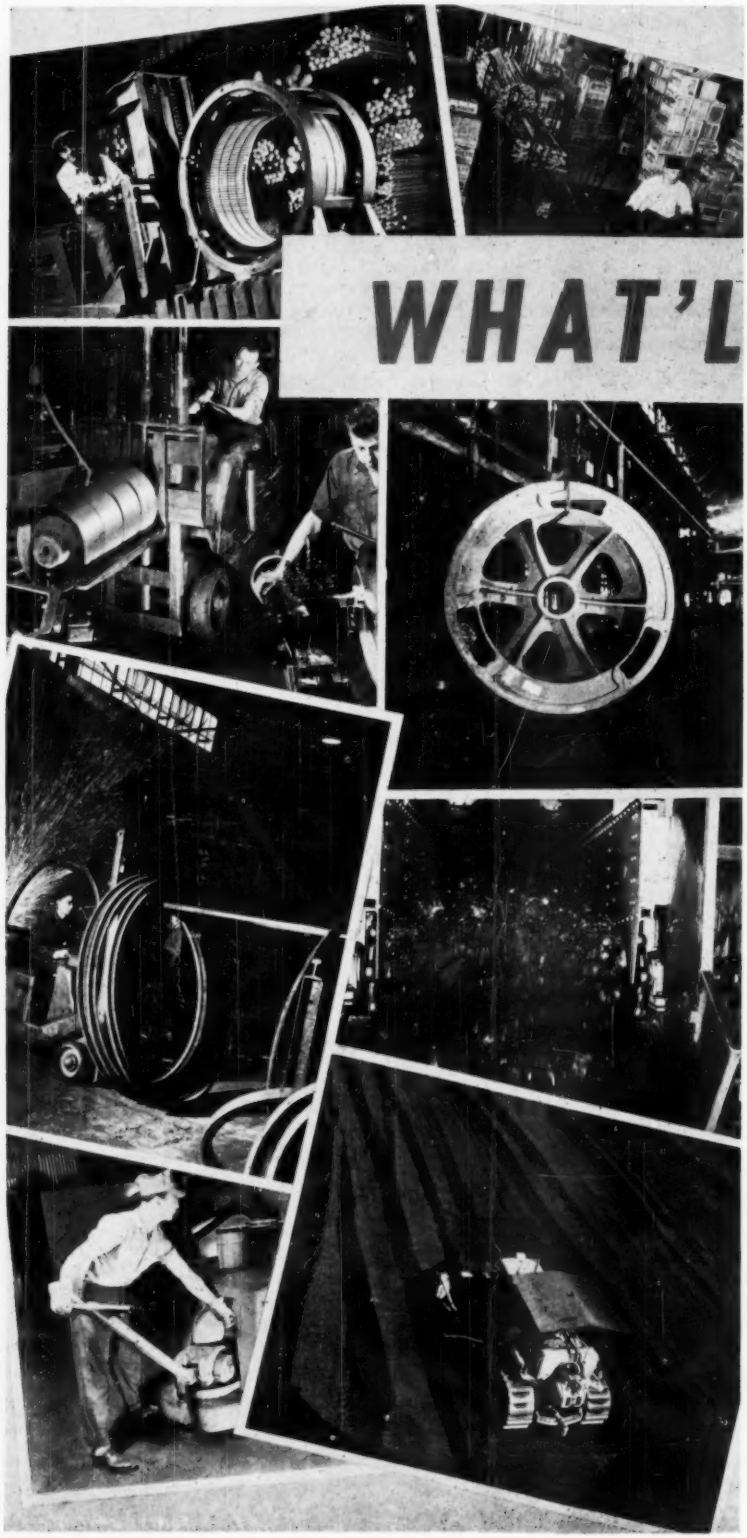
FOR TWO LIFE-SAVING feats, Cullen H. Newsome, a professional truck driver, has received national recognition, according to J. T. Outlaw, Executive Vice President, North Carolina Motor Carriers Association. He received a citation, signed by television and radio star Arthur Godfrey, and ATA President Jack Cole, which stated in part: "In recognition of the high calibre of safe and courteous truck-driving performance which entitles him to be worthy of the designation, 'Gentleman of the Highways'."

While driving his tractor-trailer on Shirley Highway near Alexandria, Va., Newsome, who drives for McLean Trucking Company, Winston-Salem, came upon an accident in which an automobile had plunged over a 60-foot embankment. He pulled a woman out of a stream and administered artificial respiration for approximately 20 minutes before she revived.

Within a month, Newsome arrived at the scene of another accident. Near Fredericksburg, Va., a wrecked car was threatened by flames and two persons were trapped inside. He doused the vehicle with his fire extinguisher and with the help of state troopers, pried open the door and rescued the pair.

MATERIALS HANDLING SERIES
next article in January

By A. K. STRONG
Chief Material Handling Engineer
American Cyanamid Company



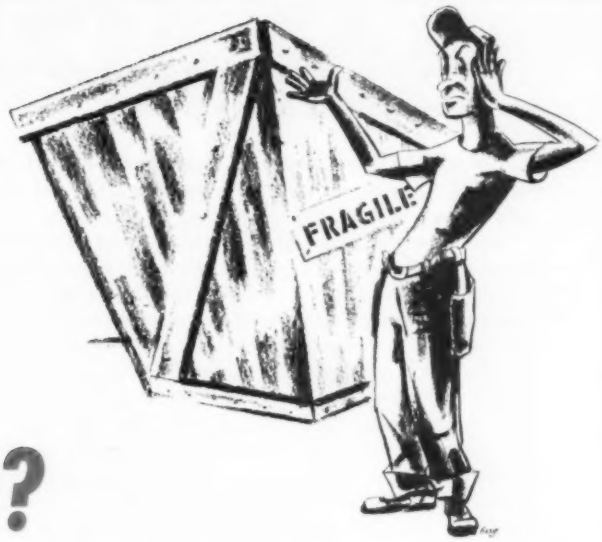
WHAT'LL WE MO

HANDLING MATERIAL is the source of 26 percent of all temporary disabilities, according to a recent National Safety Council survey. Out of 20,000 accidents studied by an insurance group, almost one in every three of all accidents, serious enough to warrant medical attention, could be attributed to mishandling of materials.

A further breakdown of this total clearly indicates two things: human failure on the part of the worker, and failure on the part of management to provide the proper tools and instructions. For example, eleven and a half percent of these accidents were due to failure to use mechanical equipment provided.

How can these failures be eliminated? ***First of all, what are you going to move? Is it a drum, bag, case, carton, carboy, machine—liquid, solid, or what? Where do you wish to move it to? Is it a short distance, as between machine operations, or does it move to a storage area or shipping warehouse?*** If the movement is short as between operations, perhaps a chute or short section of roller conveyor will do; even a properly-designed hand truck may be the answer. If the distance is greater, other means must, of course, be used.

But again, why must it be moved? Is it because the existing machine or plant layout says so, or is it a logical step that cannot be avoided.



VE IT WITH?

A well-known manufacturer of refrigeration equipment requires many thousands of parts for his line. To make these in economical quantities formerly required many physical movements of the individual part between machine operations, each group of machines being in a separate department.

Now they move a group of machines into a predetermined layout, complete with any necessary intermediate handling devices such as chutes, conveyors, etc., plug in the electrical equipment, and start production. When the run is finished, the layout is changed for the next part to be made. By scheduling die and tool requirements in advance, a complete change requires less than 30 minutes, with a 50-ton overhead crane handling the machinery shifts.

By such an arrangement, little manual handling of the pieces is required, except at the operation. Finished production is placed in large unit stacking-type containers and moved by power equipment. It's an excellent example of the time-honored command ***"Move it, but don't touch it!"***

Let us now assume that you have carefully checked existing arrangement and layout and overcome all objections, both real and imaginary, to your "ideal layout."

If you have properly analyzed and solved this portion of the problem, you will have a layout with a minimum of handling or movement between the various steps of the operation and an orderly arrangement of the larger segments of the job in their relation to each other and the plant as a whole.

The cost of making these changes must be borne by savings in handling labor and in process or production labor. In this area alone, it is possible to make tremendous labor savings as well as reduce accident hazards by properly positioning the work ahead of each operational step and after the operation is completed. A punch-press operation cycle may contain as much as 85 percent material handling. Much of this can be eliminated by proper tooling and positioning.

Now that you have modernized the operation by taking out the slack, the buggy lugging and, I hope, most of the feather bedding, you should begin to think about the material handling equipment needed.

You will probably not need as much equipment as in the old layout, but keep in mind that ***the cheapest handling is NO handling.*** Spending money just to haul stuff around a plant doesn't, by itself, improve the product or add to its value. It's a quick way to go broke.

Returning to our analysis, we have decided what is to be moved, we have reduced distance to a minimum, we are ready to decide: ***How much is to be moved.*** Is it a continuous output, or is it in small lots which can be moved intermittently? If the operation is intermittent, any equipment we select should be versatile enough to handle other items in the production schedule. This procedure reduces idle equipment time and increases the profit margin.

This requires knowledge of equipment types—what each is used for and how it is used. Unfortunately, I find a good many so-called safety engineers all too eager to condemn a piece of equipment, when as a matter of record, it's the first time they have ever seen it, to say nothing of knowing how it is used in similar operations in other plants. Looking at pictures in catalogs isn't enough. Go out and call on your neighboring plants and see for yourself, for example, what a straddle truck, a fork lift truck, a "walkie" type pallet truck, a front-end loader, a boom stacker look like. See what they do and above all, become familiar with accepted methods of operation.

It is this lack of information about material handling equipment that leads to more misapplications and, to some extent, to more accidents than any other single factor.

The accidents resulting from "failure to use the mechanical equipment provided," to me, reflect misapplication instead of operator failure. If the equipment has been properly selected, it will be easier to use it than to do the job by hand.

(Continued on next page)

Here are some ideas you can use in reducing your material handling costs:

1. **Instill in the minds of your people that material handling sproblems are everywhere.** No department or area is exempt. No type of business is exempt or "different." 2. **Look to other industries for ideas and equipment.** Bulldozers and the selfloader will handle coal, limestone and some chemicals as effectively as they do earth. 3. **Make full use of every good idea.** Many times, the man on the job can offer an idea that no one else ever dreamed of. Give him a chance to talk about it and give him full credit if you use the idea. 4. **Keep abreast of what is new in the field.** Merely knowing that certain basic equipment exists doesn't solve problems, but by keeping abreast of the latest and best in those equipment lines, you can better answer each problem. 5. **Use standard equipment wherever possible.** If the job becomes obsolete or fades, there will then be standard useable equipment, instead of "white elephants" for salvage. 6. **Keep methods simple.** The complicated ideas are complicated, because no one has given them sufficient thought. It's like the man who said, "If I had more time, I could write a shorter letter." 7. **Question management as to the future of each product or process** before spending many hours in developing improvements. It is wasteful of time and talent to work on a project that may be scheduled for permanent shutdown 6 months later. 8. **Establish a definite equipment replacement policy.** You will be more surprised than pleased to learn that you may not have a definite equipment replacement policy. Yet you will spend many management hours trying to decide what to do about old Joe Blow, whose work is beginning to slip. He has been on the payroll for 25 years and now you have the problem of retiring him or shifting him to some clerical job within his capacity.

If you operate a quarry or surface mine, a rubber-tired carryall with a capacity of 15 to 20 cubic yards may prove vastly more flexible and cheaper than a narrow gauge railroad. If the movement is between two fixed points, in one direction only, a conveyor may be the answer.

For your coal handling, the barge unloader handling several hundred tons per hour, coordinating with pneumatic-tired, self-loading carriers, can pile and pack at very low cost. Recovery is possible with the same equipment moving at high speed taking a light cut. For the medium and small operation, the portable car unloader and stacking conveyor are ideal. Recovery by shovel truck is now in common use.

In receiving and warehousing operations, bulk materials may be handled mechanically or by air out of the common carrier into storage and from storage to process. Here volume determines the amount of money you can afford to spend to handle the material. Remember, savings of bulk over bags are equal to the sum of the container costs, plus savings in labor at each end of the haul. Out of these savings, you must buy, maintain and operate the proposed bulk handling equipment. The greater the volume, the more dollars you have to play with. In any case, if the volume is under a million pounds per year, it will probably be an unprofitable venture.

Liquids received in drums may be handled in bulk if there is sufficient volume and the characteristics of the material will permit it. Too many points of use in your plant may increase the cost of your distribution system, but in any event, a figure of 2 and a half dollars per drum is a good gross savings figure for estimating purposes. For receiving and handling miscellaneous materials in drums, bags, cases or carboys, the fork lift truck and pallet system is very flexible and will enable you to utilize your "air rights" in every storage area by stacking.

Attachments For Everything

For unusual shapes, there are many attachments for the highly versatile fork lift truck such as: rams —for coils, castings, gears, wheels, etc.; clamps—for boxes, bales, rolls and even bags; revolving heads—which enable you to lift and dump a container; crane arms—for castings, shapes, motors, small machines and general maintenance work; special forks—for brick and building block; scoops—for bulk material. This same equipment is highly useful throughout the plant. You will be amazed at the extreme flexibility of these units, properly equipped.

There are pneumatic-tired trucks rated from 2,000 to 18,000 pounds capacity for yard work where the road conditions do not permit solid tires to travel. Another work horse in this field is the straddle truck, capable of carrying loads up to 30,000 pounds at 30 miles per hour. One well-known metal working plant increased production over 15 percent by moving all reserve stores to a vacant lot, a half-mile from the plant. Additional production machines were installed in the space thus provided and a 2-hour cushion scheduled ahead of each machine. By using special chain slings and bolsters, bar stock can be handled the same way as lumber. Small parts are moved on skids. Drums are moved on pallets. The only drawback to this type of truck is that it cannot stack loads.

A newcomer in the stacking field is a truck designed for loads of 2 to 4,000 pounds that requires an aisle width of 6 to 7 feet, instead of the 11 to 12 feet normally used by the full cantilever-type fork truck. This reduces aisle requirements by 40 per-

(Continued on page 23)

ENTHUSIASM

...INSTEAD OF Tolerance

By using imagination you can make safety attractive... vivid... interesting... and show each worker clearly how safety benefits him. And you have his enthusiastic cooperation—not mere tolerance.

YOUR
Safety News
THE JOHN DOE COMPANY, INC.
Why Your Safety Means So Much
in Big Plants
& Small
Let's put it this way: Assume that an average workman has a wife and two children and during a year's time each member of the family has an accident, such as a bad fall, cut, burned fingers or any injury that would prevent normal activity for a day or so. This might not seem too bad. But suppose in a plant of 10,000 workmen, each employee has a lost time accident. That would mean 10,000 injuries in one year! WOW!
Small plants SEEM to have so few accidents that many of them do not even figure their rate. If they did, the chances are they would get a big surprise, for the accident rate of small plants may be higher than for big plants. It doesn't matter what size plant we have—safety requires the cooperation of everyone for his own good.
Play it safe wherever you are.
John Doe

Size 5½" wide x 8½" deep

...talks the worker's language!

Full of color, pictures, humor and snap, it makes safety interesting and down-to-earth. 12 times a year it covers every accident hazard. Nationwide, leading industrial firms state it's the *only safety paper their employees will read* . . . and take home to their families.

It gives you the advantages of personal contact, saving time and money. When it prevents one Lost Time accident, it has more than paid its cost for the year. Try it . . . it works!

Your Imprint Here!

makes YOUR SAFETY NEWS your own publication . . . a good-will ambassador . . . another force for better industrial relations.

Every employee feels bucked-up by a note from the boss. If you desire, your facsimile signature can be printed here.

Your Signature Here

NOTE:

Your Safety News is designed to promote better employer-employee relations. Every item is carefully weighed from this viewpoint.

INSIDE PAGES
(pages 2 and 3)

IN YOUR EMPLOYEE'S INTEREST

Your employee's self interest in his own safety is always emphasized. Even household hazards are covered to keep him safety-conscious every minute, not only in the plant, but at home and on the way to work.

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Item (2) INDIVIDUAL NAME OR SIGNATURE, if desired. In the large space provided, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

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F.O.B. New York, N. Y.

What'll We Move It With

(Continued from page 20)

cent. At present building costs, this item may well be worth its weight in gold.

Some material of odd shape will not load or stack well on regular pallets. For this problem, there are numerous styles of tote boxes in which parts can be stacked or nested. These boxes in turn may be grouped in a steel storage rack, which is available in many sizes. These racks form a unit load for handling and stacking with conventional fork lift equipment. There are also available steel bottom dumping skid boxes, some of which may be mounted on a stand to act as a feed hopper for small parts of an operation.

If you have an assembly-line type of operation, there are many types of overhead conveyors, some of which carry the load continuously, others that provide "power and free" or dead siding service where a unit may be shunted without removing the load from the car. Where synchronization of 2 conveyor units is necessary, there is now available a simple electronic device which controls AC motors most accurately. For localized lifting to reduce human effort, there are numerous small cranes of the jib and bridge type, suitable for one-man operation that are low in cost, but big in time and energy savings. For yardwork, there are numerous crawler or rubber-mounted industrial cranes in various sizes which are compact and most effective for a variety of jobs.

The small gas-driven car mover (trackmobile) is in successful operation in many plants, replacing or supplementing diesel locomotives in car shifting operations.

The fork truck serving as a tractor, drawing several trailers is setting new records in cost cutting, because one man can move, load, unload and deliver to the point of use, palletized loads of supplies that formerly required 2 or 3 conventional motor trucks each manned by 2 or 3 men.

By adding the communication-magic of 2-way radio, in-plant and inter-plant service is greatly increased. By properly equipping the dispatcher's office with coded location charts, an effective stock control can also be maintained. The 2-way radio has consistently increased constant plant fork truck use from 40–45 percent to 85–90 percent.

Shipments to customers can be made that effect savings at both ends. The highly publicized palletized shipment offers some gains in certain areas and under certain conditions, but use extreme care in studying your conditions before giving final approval to this method.

In designing new plants, warehouses and other facilities, the material handling man has a sort of 6th sense that the majority of design engineers unfortunately do not fully appreciate. He can guide them in matters of plant location, plant layout and in the selection of methods and equipment that will yield a lower cost per unit of produce, instead of a low cost per cubic foot of building space.

The material handling man can provide information on such items as dock height for trucks. Modern semi-trailers, for example, require a dock surface at least 50 to 52 inches above the road grade. They also require an apron approach extending 80 to 100 feet beyond the dock face to facilitate in and out travel. A tractor-trailer van with a 32-foot body is capable of only minor contortions. A poorly arranged dock approach wastes your time too, because your shipping crew may be waiting while the tractor driver maneuvers around yard hydrants, other trucks and obstructions.

The problem of single story or multiple story structures should be correctly evaluated. Operating costs will be higher when you build the new addition, like your new split-level home, with a 2 to 3 foot drop or rise to negotiate as you move into the new section. You will save space by indicating correct column spacing to give unobstructed aisles and yet not waste storage space. Insist on an operating height unobstructed by pendant lights, piping and heaters.

If you ***must*** build a multistory unit, recommend a 10,000 pound or larger capacity elevator designed to take the impact of a loaded fork lift truck, with space enough to handle the truck and load. If this item is not checked, I'll wager you will install one rated at 2 to 4000 pounds with a small car, probably measuring 8 by 10 feet. Insist on a building having a floor load capacity capable of safely handling a loaded 4 to 6000 pound capacity fork lift, and of storing materials stacked at heights to best utilize the cube you have provided.

There is a new evaluation technique developed by the Machinery and Allied Products Institute which explains the pros and cons of replacing human material handlers with machines. Two books have been written about it. For those interested, they are: "Dynamic Equipment Policy" by George Terborgh, published by McGraw-Hill Book Company, which describes the underlying economic theory. The other book is "The MAPI Replacement Manual" which explains the method in simple terms. A third book describing a different but useful method is, "Principles of Engineering Economy" by Grant and Norton. The third edition is published by Ronald Press.

You may think that you solved all your material-handling problems 2 or 3 years ago by calling in a consultant. He probably did solve a lot of them in the light of information at that time. But, have your plant and processes remained unchanged ever since? Probably not. Certainly there have been many major developments in materials handling techniques and equipment since 1949 and we haven't seen anything yet.

In 1952, you bought over 1 million dollars worth of material-handling equipment. But you have been spending 7 billion that might be saved. You can triple your total purchases of such equipment and you will have only scratched the surface.

Pictures by courtesy of:
upper left—Towmotor Corp.
upper right—Mercury Mfg. Co.
middle left—Towmotor Corp.
middle right—American Chain & Cable Co., Inc.
lower left—Towmotor Corp.
lower right—Goodyear Tire & Rubber Co.
bottom left—Yale & Towne Co.
bottom right—Caterpillar Tractor Co.

CENTRAL COOLANT SYSTEM

BOOSTS GRINDER EFFICIENCY

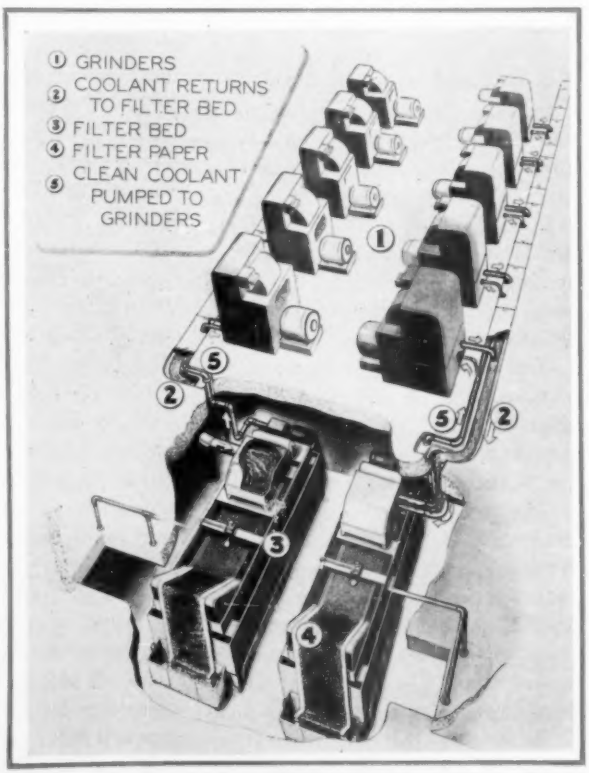
A CENTRAL COOLANT SYSTEM which supplies continuously filtered coolant to all the plant's grinding machines is substantially boosting grinding efficiency and quality at the new Warner & Swasey parts plant at New Philadelphia, Ohio. One of the few systems of this kind incorporated in new plant design, the coolant operation centers in a below-floor filtering and reservoir installation occupying an area 17 by 34 by 10 feet high.

All of the plant's grinding machines are served by pressure piping from two 2100-gallon filtering tanks in this room. Spent coolant containing work chips and abrasive particles is discharged from the grinding machines into a covered floor channel through which it flows back to the filtering tanks by gravity.

Spent coolant drops into either or both of the filtering tanks, which incorporate continuous roll feeds of 48 inch wide filtering paper to strain the contaminating particles from the fluid. Clear coolant, withdrawn from the bottom of the tanks, is pumped back to the machines at a maximum relief valve setting of 25 psi.

Filters Clear Coolant

The system is so interlocked that one or all of the three 450 gpm vaned impeller-type pumps may be operated with one or both of the filtering tanks depending on the number of machines operating. Twenty-eight grinders, varying from 4 by 18 inch external to 36 by 60 inch rotary surface units, are presently working in



Removed floorboard in top picture shows coolant flowway, while bottom cutaway drawing shows operation of whole system.

the system, which has an ultimate capacity of 40 machines.

Pumping rates and paper feed are regulated by level control switches in the tanks. Used filter paper feeds down into steel bins at the rear of the filter room, where a fenced opening to the plant above permits periodical removal for disposal by the overhead bridge hoist serving the bay.

This central coolant system offers a number of advantages. It eliminates grinder down-time and nonproductive labor required for frequent sump cleaning required by individual machines, if each relies on its own coolant system.

More System Advantages

It also assures a constant supply of clear coolant of an absolutely controlled mixture for the better work quality and finer finishes required for the plant's machine tools, textile machinery, and other machined parts and products.

With centralized control, coolant waste is virtually eliminated; there is no throw-away involved as there might be because of mixtures growing rancid in temporarily idle machines. The system also makes it possible to maintain a uniform coolant temperature consistently, making it simpler to hold sizes accurately on machines. Based on the saving in the time of two men who would normally be needed for sump cleaning, plus the idle time of machines being cleaned in this way, the entire installation is expected to pay for itself in two years.

Pictures by courtesy of The Warner & Swasey Co.

Plastics Safety Committee

A SAFETY COMMITTEE has been set up by The Society of the Plastics Industry, Inc., with Everett W. Bickford as general chairman. The new committee, in cooperation with the National Board of Fire Underwriters and the National Safety Council, is in the process of developing a safety manual for the prevention of accidents in plastics processing plants.

Never a slip on ice or snow when you've spread ZORBALL!

THIS wise driver carries a bag of Wyandotte ZORBALL in his truck all winter long. If his truck slips on ice or snow, a sprinkling of ZORBALL gives his wheels instant traction.

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(Use Key # Z-10 on Inquiry Card on page 73)

42nd Safety Congress

(Continued from page 11)

together, a clearcut division of responsibilities, and teamwork in safety projects. . . . Consideration is a basic human need. . . . Treat everyone as if they were human beings, and you will be surprised with the universally favorable response. . . . Cognizance means recognition of something we do or say or are. As an incentive it is incomparable. . . . Comfort is essential. . . . We in safety are concerned that all American citizens are not impaired in their safety practices, on and off the job by undue concern for security. . . . Confidence is self-assurance, but not arrogance. . . . It is needed nowhere more than in safety, because after half a century, the safety movement is still short of complete fulfillment. . . . Conduct means the doing of something worthwhile, and in the safety field, it may be our richest and most gratifying reward in this life."

Speakers Sum Up with Slogans

"We cannot afford to make a displaced person out of the man with the big idea," said Crawford H. Greenewalt, president of the DuPont Company, in his talk before the Congress. He pointed out that the results of the industrial safety program have been highly successful because it has become the responsibility of every person concerned. While recognizing the importance of team effort and organization, Mr. Greenewalt declared that individual thought and responsibility must not be submerged in mass requirements.

"Science made this nation a great neighborhood, but it is up to safety to make it a great brotherhood."

Around this statement, Jack Lacey, public relations director of the Colorado & Wyoming Railway Co., drew a picture of the past and future in safety.

"The cave man and the jungle dweller were far safer from accident than modern man," he insisted. "Modern homes, plants, and offices are boxes of tricks ready to cause death to those without care or knowledge. Now safety has become a science dealing with men's minds. By altering men's attitudes of minds safety can alter their lives for the better."

Safe industrial operation is good citizenship and good citizenship is like a conscience—this was the slogan around which Hobart A. Scott, safety engineer of the Ford Motor Co., built his address.

A good citizen, he said, is one "who willingly discharges his obligations in the community by striving to promote the human welfare and preserve the dignity of those with whom he works, plays and lives," and any safety program is based on those same concepts.

"A safe operation is a prerequisite to a successful industrial endeavor," he said. "Citizenship is like a conscience—it shows, if only to its owner."

"Accident prevention and production go hand in hand," summed up T. A. Kraklow, safety director of Deere & Co. He said that it's up to safety men to prove the truth of this statement in their reports to management. He urged all men engaged in safety work to dig out more facts about the losses that occur in accidents—the loss of time, the damage to equipment, increased maintenance cost and interference with production.

Safety on the job not only saves lives, it usually saves time. This phrase belonged to Robert E. Sanford, forging consultant of the Clearing Machine Corp. He told the story of a forge shop superintendent who resented a suggestion that it was dangerous for workmen to climb around the furnace to adjust burners. However, after having a catwalk built to make the task safer, the man was highly pleased because it not only made the adjusting safer, it cut down the time to do it from 10 to only 2 minutes.

The best way management can support safety programs is by showing a firm belief in them, was the way Ernest L. Hood, training and safety director, C. Brewer & Co., put it. He urged the "boss" to set an example for workers by wearing safety goggles, obeying the fundamental rules of safety and by maintaining the appearance of his office and surroundings properly. He said he must also give credit to supervision right down the line whenever they merit it.

"Most of all," he said, "management must provide an adequate budget for safety. It is impossible to cheat on safety and enlarge on profits."

"Our most potent safety tool is our attitude toward safety," was the thought voiced by J. M. Sylvester, general manager of the Bethlehem plant of Bethlehem Steel Co. He said that most people are greatly concerned about their physical and material well-being. While many individuals, through a false sense of security or pride, are slow to appreciate constructive suggestions for their own personal safety, a persistent program sets up a subconscious personal response.

Let the workers call the signals if you want safety on the job, suggested George E. Deming, Jr., assistant personnel director of the Heintz Manufacturing Co.

He told how foremen weren't cooperating because they said the safety department was throwing too many rules at them. So they let the foremen write the safety rules. The amazing result was that the foremen themselves were more strict than the safety department had ever been, he said. The significant thing was that whenever a foreman explained a rule to a worker, he'd say, "This safety rule is okay. I helped write it and I know it's for your benefit."

Why are some of man's most dangerous activities actually among the safest things he does? The answer is attitude, said Dr. Henry T. Heald, chancellor of New York University.

Pointing out that some of the most dangerous industrial, driving and military operations are frequently the safest, he said "attitude makes an individual have a positive desire to use every possible safeguard and take every necessary precaution."

He said this attitude frequently is lacking in commonplace activities

which seem on the surface to have no element of danger. These observations prove that it is possible for education to teach anyone to do something safely by developing desirable attitudes, Dr. Heald declared.

P. J. Dunlap, manager of the hydraulic press and special machinery department of the A. B. Farquhar division, Oliver Corp., listed the major safety advances in hydraulic press operation and design. He put it in a sentence this way: "The lessons learned from painful experiences must be used, as the price paid for knowledge of this type is not counted in dollars and cents," he said. "It is counted in hands and fingers."

"Once industry gets a sample of quieter operation, it is unlikely that it will want to go backward any more than it wants to reconstruct the drab, ugly factory of a half century ago."

That optimistic note on the future reduction of industrial noises was sounded by Howard C. Hardy, assistant manager of the physics research department, Armour Research Foundation, Illinois Institute of Technology.

"It is becoming more evident with time that it is not just sound pressure level that causes hearing loss but the amount of exposure," he said.

Safety Programs

Although a full-fledged hearing conservation program may be costly, results in employee protection and company benefits fully justify the expense, according to Miss Louise Davidson, a registered nurse in the hearing conservation program at Lockheed Aircraft Corp. The program at Lockheed is limited to employees in jobs with predetermined noise levels in excess of 85 decibels, which includes 45 percent of all personnel.

"Every applicant for employment is given a complete medical examination," Miss Davidson said. "Audiograms are used for two basic purposes: to provide an accurate hearing history and findings at time

Pump-
don't
slop

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You can build an effective barrier against fires and accidents, reduce maintenance costs and make a general improvement in housekeeping if you pump liquids from drums instead of pouring, drawing, siphoning or spigoting. If you use Tokheim pumps you may also be rewarded with lower insurance rates.

The wisdom of pumping seems obvious, doesn't it? And so desirable you'd think every factory would have such equipment. But the number of modern plants that still employ antiquated methods of liquid transfer is surprising.

These little Tokheim pumps are a valuable asset to any factory. They assure safe handling of liquids in small quantities — reduce spilling, slopping, over-filling, dripping, and practically eliminate slippery floors. Pump 20 gallons a minute. Available with hose or spout and optional parts for special liquids. Decide now to put Tokheims to work for you. See your dealer, your Tokheim representative, or write the factory.

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of initial hiring and to serve as a means for selective placement of employees in positions compatible with their hearing acuity and ear stability."

She said all applicants can be classified into 1 of 4 categories: (1) those considered capable of working in any noisy area, (2) those restricted from areas where noise levels are above 85 decibels, (3) applicants who have lost their hearing and may work in noisy areas where loss of hearing does not constitute a hazard, and (4) applicants with moderately severe hearing loss and nerve damage who must work in areas where inability to hear warning signals would not place them under undue hazard.

Periodic re-checks of hearing ability are given at various intervals, he said, according to the audio record of the employee. Employees with normal hearing are checked every 6 months. Those with questionable findings, every month. Borderline cases are re-checked every week, according to the nurse.

Eighty-two pairs of smashed safety glasses are convincing proof that an industrial eye protection program pays off. In money payments alone, Dr. Herman Sager, supervisor of the eye service section of Sperry Gyroscope Co., showed that savings were great enough to pay for the 10-year operation of the program.

He said, the program cost 400,000 dollars. During the 10 years, 82 pairs of smashed safety glasses have been accumulated which, in the opinion of a qualified committee, saved one or both eyes from blindness as a result of an accident. At the rate of compensation awards in New York —5,120 dollars for the loss of an eye —these accidents would have resulted in minimum payment of awards totaling 419,840 dollars he pointed out. He reported that not one eye has been lost in the machining or foundry areas in 10 years since the program's inception.

Discussing a program of shipboard safety "that worked," C. H. McGuire, director of the Office of National Shipping Authority and Government Aid, outlined 4 basic attributes of a minimum program for marine safety.

It included:

1. Top management interest in sponsoring formal accident prevention programs.

2. Assignment of a member of the operating staff to the duty of safety officer, to coordinate safety activities of the company.

3. Establishment of a safety committee aboard every ship, for the purpose of investigating and discussing accidents at regular intervals, and recommending steps to prevent similar accidents in the future.

4. Keeping adequate records of all injury-accidents, and disseminating information for corrective action and further guidance.

Asking the question, "Is Off-the-Job Safety Any Business of the Safety Engineer?", William E. Helms, Medical and Safety Department Manager of the Bell Telephone Company of Pennsylvania, answered the question himself with an emphatic yes. Besides the human obligation, Mr. Helms pointed out, the cutting down of absenteeism is a factor in interesting the safety engineer in community safety.

He enumerated some of the steps his company took to promote off-the-job safety: publication of accident prevention articles in the house organ, distribution of home safety pamphlets, bulletin board posters on overall accident prevention, voluntary first-aid off-the-job training sponsorship, making available a nutrition course to workers, off-the-job accident discussions in the company's safety committees, and analysing of off-the-job injuries to direct attention to the most important categories.

We are constantly hearing the phrase "Accident prevention is good

(Continued on page 31)

"Safety Maintenance" Salutes A SAFETY IDEA

. . . From Under Safety's Xmas Tree

WHAT SEEMS TO BE a preview of a new Christmas toy in the picture above, is actually a demonstration of a model crane used to teach safety to crane personnel at the General Electric Company's turbine factory in Schenectady, N. Y.

A company crane expert shows a 7-year-old visitor how the crane lifts the scale model of a 166,000-pound generator rotor. Complete with electrical controls, miniature motors, pulleys, hooks, cables, and slings, the 5-foot model of a 100-ton overhead traveling crane in the factory hoists scale models of turbine-generator parts, enabling trainees to see and practice the lifts they will encounter on the job.

The turbine factory crane school is believed to be the only one of its kind in heavy industry. Safety taught at this school is of vital importance in the factory since crane personnel must know how to lift safely units weighing anywhere from 2 to 234 tons. Equally important in a factory where 1,500,000 lifts are made each year is the fact that a single work piece may be worth more than a half million dollars.

Picture by courtesy of General Electric Co.

"What's the Law?"

Edited by
HENRY M. GROSMAN
Counsellor at Law, Newark, N. J.

Master Superior Court, New Jersey
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National Federation Insurance Counsel
Past Commander, American Legion, Post 10,
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• • •

Shower Injury

PETITIONER WAS A cook at a resort hotel. Her contract of employment required living on the premises and being available at all times. On a Sunday evening, after supper had been served, she made preparations to begin baking cakes for the following day. But before beginning the actual baking, she decided to bathe and change clothes. While in the shower she slipped and fell against the bath-tub, injuring her leg, back and head. She testified that her working hours were unlimited, the weather was unusually warm, and it was necessary for her to take several showers in the course of a normal day.

An award was made by the Industrial Board and the employer appealed, contending that the accident did not occur "in the course of employment." On Appeal, the Court held that "course of employment" included intervals of time for leisure interspersed in regular working hours for rest or refreshment on employer's premises. It further held that cleanliness was an important part of the claimant's duties in the handling of food, and the taking of a shower was not an abandonment of her employment.

WEISS vs. FRIEDMAN'S HOTEL, Pennsylvania Superior Court, Western District, No. 35, July 13, 1954.

Successive Injuries & Liability of Insurers

The insurance carrier for an employer was properly held liable to pay compensation for total disability to an employee who aggravated a prior back and groin injury in lifting a 30-pound box of lettuce. In 1948, the employee had suffered back and groin injuries while working for the same company and at that time the employer was covered by insurance through another carrier. The Court ruled that, although the earlier injuries may have played some part in the ultimate total incapacity of the employee, there was evidence that the last injury was a cause of the incapacity.

The Court further ruled that where there are successive insurers, chargeability for the whole compensation rests upon the one covering the risk at the time of the most recent injury that causes disability.

FITZPATRICK'S CASE, Massachusetts Supreme Judicial Court, No. 11,400, April 2, 1954.

Tornado Death Uncompensable

The Court held that the widow of an employee killed by a tornado while traveling from work in the truck of his employer was not entitled to death benefits. The employee, a mason, was employed on a job away from his home. The employer housed the workers in a hotel and transported them to and from work in a truck. During an afternoon, a storm arose, and the supervisor ordered the workers to return to the hotel. While driving back on a public highway, the truck was struck by a tornado, and resultant injuries caused the employee's death. His widow claimed death benefits under the compensation act; but the Supreme Court held that the in-

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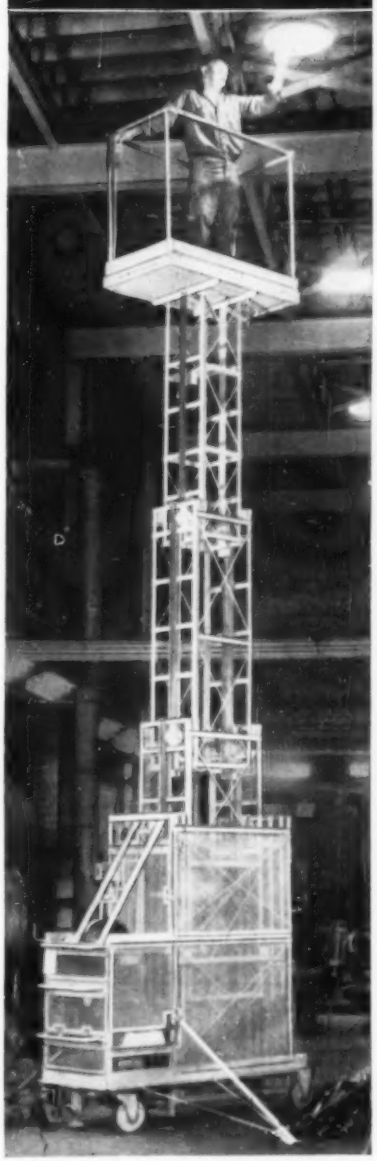

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(Use Key # Z-12 on Inquiry Card on page 73)

juries were not causally connected with the employment, and that the tornado "was a danger common to the general public at the time and place where it occurred."

JACKSON vs. CLARK AND FAY, INC., Tennessee Supreme Court, May 21, 1954.

Prior Back Injury

The claimant was employed by respondent and suffered a back injury in the nature of a sacroiliac strain. The trouble recurred many times, and seven years later, while his claim for the original injury was still pending, he suffered a further back injury while working for his present employer. The Court ruled that there was sufficient evidence on which to predicate an award and rejected the present employer's contention that the latter injury was merely a recurrence of disability due to the original injury.

STEIN vs. ARTHUR VENNERI CO., New York Supreme Court, Appellate Division, 3rd Judicial Department, May 24th, 1954.

Machine Operator—Recurring Hernias Carrier Responsibility

The carrier at the time of disablement is responsible regardless of prior injuries of an employee. The Court held that a claimant was properly compensated for a hernia disablement though he had suffered recurring hernias over a twenty-year period while employed in the same work for the same employer. Connection between the work and the injury was not contested; but it was alleged that the carrier at the time of the original injury was responsible, as the recurrence of the condition was a result of the first injury.

The Court held that "the date of disablement is the crucial date on the responsibility for benefits . . . and when employment continues with the same employer the carrier at the time of disablement is responsible."

CLARK vs. ROCHESTER FOLDING BOX CO., New York Supreme Court, Appellate Division, 3rd Judicial Department, June 18, 1954.

Fall En Route to Work—Executive Doing Paper Work at Home—Not in Course of Employment—Causal Connection

The elderly chief executive of a wholesale jewelry firm fractured his hip in a fall on icy pavement while on his way to work and was awarded $18,372.10 for permanent injury and medical expenses. The Court, however, reversed the award of the Commission, holding that the taking home of the paper work was for the convenience of the claimant, and the fact that such work was in his possession at the time of the accident was not sufficient to connect the injury with the employment.

It was held that the journey would have been made regardless of whether the work were done at home or at the office.

SYLVAN vs. SYLVAN BROS. INC., South Carolina Supreme Court, June 29th, 1954.

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(Use Key # Z-13 on Inquiry Card on page 73)

42nd Safety Congress

(Continued from page 28)

business!", but what does it mean? R. L. Bard, Superintendent of Overhead Construction for Commonwealth Edison, says it is good business in an electric utility, but he explained that it meant real effort.

The necessity of a plan for emergency and disaster in industrial plants is apparent, according to John J. Redmond, Assistant Production Manager, Koppers Company, Inc., simply because an emergency which has been planned for never takes as many lives or costs as much. Mr. Redmond emphasized that a disaster was not a wartime problem only, but could arise in peacetime at any moment. Discussing the destruction caused by a tornado at an industrial plant which thought it had a good disaster plan, he said the company learned that plant personnel must be singly directed from a single place and trained in advance; the plant must be self-sufficient with emergency equipment and lighting, the immediate steps to take when a disaster strikes must be clear to all and carried out promptly; and communication and identification must be arranged in advance.

Ninety percent of slips and falls are the result of a condition which the victim knew about, at least in the paper industry, said A. E. Minor, safety supervisor of the Ontario-Minnesota Pulp and Paper Company Limited. He reported that his company meets the dangers of the busy workman forgetting hazards momentarily by using adhesive coatings on floors where oil or water can't be continuously removed, enforcing rules on picking up tools, painting dangerous projections and stairs, and providing adequate light.

The full use of protective devices in electric line work is essential to save lives, reported F. G. Harriman, safety engineer, New England Power Service Co. He recommends line hose, insulator hoods, rubber blankets, rubber gloves, and rubber sleeves. With proper training in their use and insistence on their use at all times, said Mr. Harriman, there is no reason why one of the 110 electrical workers killed by shock last year should have died.

The tremendous past growth and probable future expansion of the chemical industry poses a problem of safe storage of flammable liquids, warned James J. Duggan, of Carbide & Chemicals Co.

Chemical storage has grown 400 percent since 1939, and petroleum has increased 90 percent also.

Too much safety equipment can be as bad as too little, according to J. D. Acree, plant manager of the Crawford Chemical Co.

Too much can defeat its own purpose, Mr. Acree said, by arousing an attitude of opposition on the part of the worker. He feels it is unnecessary equipment and discards it as soon as he's out of the sphere of supervision. Improper or inefficient equipment also can give the worker a false sense of security.

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(Use Key # Z-14 on Inquiry Card on page 73)

Industrial Hygiene

Associate Editor
Jacob A. Goldberg, A.M., Ph.D.

Industrial Ventilation Manual

THE COMMITTEE ON INDUSTRIAL Ventilation of the American Conference of Governmental Industrial Hygienists has made available the 3rd edition of their Industrial Ventilation Manual. The Manual is intended for practical application and features the latest information on air cleaning devices, laboratory hoods and testing of discharge stacks. It covers the general principles of ventilation, dilution ventilation, comfort ventilation, hood design, specific operations, duct design, make-up and recirculated air, construction specifications, testing of ventilation systems, fans and air cleaning devices. There are many prints and illustrations.

Copies may be obtained from the Committee on Industrial Ventilation, P. O. Box 453, Lansing 2, Michigan at $3 per copy.

Who Causes the Smoke?

SIXTY-FIVE PERCENT of the dense smoke over Chicago is produced by people operating in violation of the city ordinance. This fact was brought to light in a survey of dense smoke observations made during 1953 by Chicago smoke inspectors and reported at a meeting of the Midwestern Air Pollution Prevention Association. The report was made by Edward G. Fochtman, research chemical engineer at Armour Research Foundation of Illinois Institute of Technology, which conducted the survey for the association.

The survey, based on records furnished by the City of Chicago's Department of Air Pollution Control, concerned a random sample of 15,000 reports in the three densest catagories. Smoke is recorded in 5 densities, but the survey dealt only with the three highest. Number 3 density smoke is permitted for a limited period of time. But numbers 4 and 5, the heaviest densities, are outlawed by the city.

Fochtman underscored five areas in which "a minimum of effort would result in a maximum of smoke pollution reduction." These are: Smoke violations; Industrial heating plants; Large oil burners; Incinerators, especially open fires; and Railroad roundhouses.

He presented a graph which showed that during 11 months of the year industrial heating plants were responsible for more smoke reports than any other classification of smoke source based on building use. Other classifications used were apartment buildings, small stores with apartments on the second floor, commercial structures, and a general category that included institutions and schools among others. Locomotive smoke was treated separately.

Of the total number of smoke reports on buildings, industrial heating plants accounted for 36.5 percent; apartments, 21.8; store-apartment buildings, 17.2; commercial, 9.7, and the institutions, etc., 14.8.

The survey revealed that Chicago air is smokiest during December or March between 7 and 10 a.m. in an area bounded by Irving Park road, 16th street, Central avenue, and Lake Michigan.

Fochtman reported that 48 percent of the smoke reports on buildings were made between 7 and 10 a.m. and that 59 percent of the locomotive smoke reports came in the same period.

He explained that one reason for high numbers of smoke reports in October and March, as well as in December, is that operation of a heating plant on an intermittent basis, caused by changeable weather in spring and fall, produces more smoke than continuous operation.

Articles of Interest

Of interest to the industrial hygienist are two articles recently published: one titled "Environmental Medicine in Industry" by C. Richard Walmer, M.D., the other "Principles of New Plant Design for Health Protection" by Theodore Hatch.

Dr. Walmer discusses the functions and benefits of environmental medicine, traces them through the industrial physician and his activities, and discusses the results of research on the subject. Mr. Hatch concerns himself with the anticipation of hazards to health in the construction of new plants in a practical discussion with many illustrations.

Reprints of these two articles are available free from the Industrial Hygiene Foundation, Mellon Institute, 4400 Fifth Ave., Pittsburgh 13, Pa.

Standards for Petrolatum Gauze

Current practices in hospitals in preparing their own bulk petrolatum gauze for burns and other surgical uses may not meet the new U.S.P. requirements for sterility, Dr. Louis Gershenfeld, member of the Sterile Products Advisory Board (U.S.P. XII, XIII, XIV), pointed out in a recent issue of the *American Journal of Pharmacy*.

Dr. Gershenfeld revealed that some of the prevalent unsatisfactory methods of preparation employed in hospitals involve the use of contaminated gauze, surface contamination, failure to sterilize gauze and petrolatum separately, wastage, incorrect proportions of petrolatum to gauze, no or inadequate testing of the finished product for sterility, inadequate packaging and storing, and failure to resterilize residual dressings.

Dr. Gershenfeld, who is Professor of Bacteriology at the Philadelphia College of Pharmacy and Science, believes the forthcoming 15th revision of the U.S.P. regulations will result in a re-evaluation of bulk petrolatum gauze dressings. At present, hospitals either prepare the petrolatum gauze themselves or purchase it on the open market. The ready-made product is available in various sizes in individual sterile packages.

The forthcoming U.S.P. recommendations state that the components in petrolatum gauze are to be sterilized separately, the gauze in the autoclave and the petrolatum by dry heat. The finished product is then prepared by aseptic manipulation and *must* meet the requirement of the U.S.P. Sterility Tests for Oleaginous Materials. Each batch must be tested for sterility after the preparation and sterilization of the petrolatum gauze.

The difficulties of many hospital bulk dressings are that they cannot be stored easily without contamination, made available for use in office practice, carried in the physician's bag, or handled in general transportation with an assurance of sterility of each individual unit, especially after the bulk package has been opened. This does not apply to single dressings.

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Ventilation Conference

The fourth annual Industrial Ventilation Conference will be held Feb. 14–17, 1955 at the Kellogg Center, Michigan State College, for the purpose of bringing together plant engineers, ventilation engineers, ventilation contractors and other persons interested in good industrial ventilation. This course is co-sponsored by the Michigan Department of Health, Division of Occupational Health, and Michigan State College School of Engineering.

The Conference program features a combination of informal one-hour talks to the group as a whole followed by classroom workshop sessions where all members of the group work from blueprints and drawings to design industrial ventilation systems. Usually, there is a choice of two or three types of systems which the individual participant may select. The 1955 Conference will feature talks on the subject of make-up air equipment and selection as well as controls for this make-up air equipment. The problems presented for the classroom sessions will be typical of the manufacturing industry and there will also be a problem presented in mining ventilation.

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—on September 30, 1954, the cash value of Series E and H Bonds—the kind sold only to individuals —totaled 37.8 billion dollars, a new high.

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Safety Maintenance & Production

FIRST AID

FIRST AID SERIES
other articles in October & November

OVER THE PAST YEAR new equipment and new ideas in first aid have passed over our desk with monthly regularity. As fast and as often as we could we have published them, enjoyed momentarily the thought of the use some reader would make of them, and turned to the many other parts of accident prevention that we felt demanded our reader's attention.

When we decided to put together this article on the developments in first aid over the past year, we were frankly surprised to see how much information on the subject we had published; and, we reasoned, if it surprised us so much perhaps our readers would enjoy having their memories jogged too. So, some of the topics discussed here may have a familiar ring to you, but they have been combined with hitherto unpublished material to give a fuller story on first aid developments in 1954.

One of the problems implied by the very name first aid is getting medical assistance to the scene of an accident in a hurry. Various plants and industries have come up with different types of mobile units to fit their individual needs. Recently, the Barber-Greene Company, Aurora, Illinois, manufacturers of material handling equipment, designed and fabricated for their own use a compartmented, two-wheeled, pneumatic-tired push cart which could be easily manipulated by plant nurses. The unit contains everything needed for first aid work from an artificial respiration instrument to a stretcher.

MOBILE UNIT

The first aid room is located almost directly in the center of the plant, and the mobile unit can quickly and easily be wheeled down plant aisles to put all the equipment right on the spot for any first aid emergency. Other items carried include a special traction board for back and neck injuries; emergency lights; two blankets and a roll of padding; a carbon dioxide fire extinguisher; Timmins splints; gas mask; first aid kit; wire splints; and, heat blocks and extra cartridges. A folding stretcher is carried in a compartment running lengthwise at the base of the unit, for easy access.

Cots and Stretchers

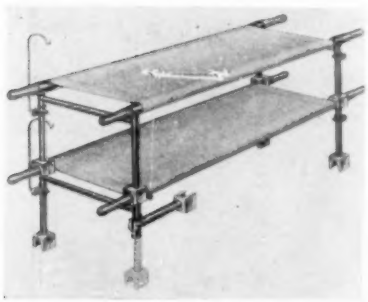
Mention of the folding stretcher in this unit brings up the number of new developments in cots, litters, and stretchers over the past year. Among them are a folding pole litter and a telescoping stretcher. The former consists of telescoping aluminum poles, which come apart at the center for folding and storing in half the ordinary space required, and a fire and mildew resistant cotton duck cover. The telescoping stretcher, also made of aluminum, can be pushed in to a 4-foot length or pulled out to 6 feet, so that it can be slid under an injured person in a narrow space and lengthened for comfort and carrying later.

Another folding aluminum stretcher has adjustable handles which can be lengthened so that a carrier may turn around and carry the stretcher by grasping the handles behind him without jarring the injured. This particular stretcher also has wheels

for this year...

at one end for greater convenience in moving. Another aluminum litter (almost all temporary bed equipment is now made of aluminum for its combined lightness and strength, as you can notice) is designed to serve as a sleeping cot as well as a stretcher and can be stacked (with its folding legs out) to form a 4-cot high tier of bunks for temporary

STACK COTS



bed space or for placement in an ambulance.

Two elevating or multi-level stretcher cots have come out in the past year, which can be lowered nearly to the floor to make moving an injured person from the floor to the cot easy. They also can be raised to the level of hospital beds and provide handles to assist the patient in being moved to or from the bed. Both on wheels and both aluminum, with arm and leg extensions that can be folded up, the cots, in at least one case, take up no more room in storage than a step-ladder. Backrests move readily in each instance to any position desired. One manufacturer, at least, has put out a similar stretcher cot with duck covering instead of aluminum slats, with adjustable backrest but without the other elevating features.

First-Aid Room Supplies

In supplies for the first-aid room itself there have also been advancements. For instance, there are now bandages designed especially to fit the difficult-to-bandage spots on toes, fingertips, heels, knuckles, and elbows. Made of elastic adhesive which is called "non-irritating," the bandages have a sterile gauze dressing in each. They are designed to fit the area without occupying extra space or rolling up. One type is large enough to cover all the knuckles on one hand.

There is now on the market also a cutter-roll to overcome the bugaboo of trying to tear adhesive tape without twisting it. An integral part of the spool which holds the adhesive spool, the cutter works, when the desired amount of tape is pulled out, simply with a flick of the wrist. A safety slide over the cutter's teeth protects the user. Also appearing in the first-aid room is a new absorbent cloth of rayon and cotton. Disposable and sterilizable, the cloth is cut in two sizes—a 13 and a half-

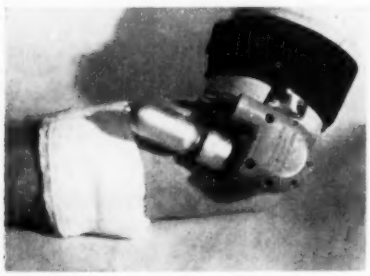
KNUCKLE BANDAGES

inch square and a 13 by 7 and five-eighths-inch piece. It can be used in place of cotton balls and tissues, fluffs, sponges, washcloths, liners, and eye protection. It is said not to stick to wounds.

A new stainless steel extremity tray for easing the scrubbing and cleansing of traumatic wounds and keeping the first-aid room floor dry

and clean has been recently introduced. The time-saving receptacle has a spout to which a rubber tube may be attached to carry drainage to sink or jar. The perforated cover is removable for cleansing and sterilizing.

AUTOMATIC TOURNIQUET



Splints and Tourniquets

A particular group of supplies for the first-aid room which have seen interesting developments this year are fracture and tourniquet devices. An automatic tourniquet which automatically and instantly stops flow of blood and maintains a regulated and uniform pressure is now available. The tourniquet can be self-applied. The injured wraps the cuff around leg or arm, twists the cartridge container to release the gas, and the gas inflates the cuff to uniform pressure. The tourniquet is said to cause less damage to cell tissue, is light, easy to carry and long-wearing.

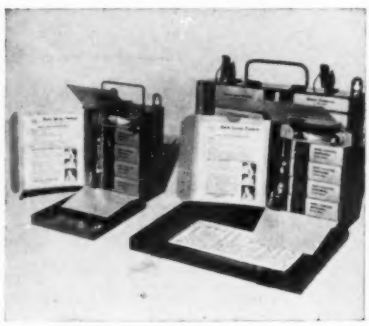
Two types of splints, telescoping and pneumatic are also here. The telescoping splints of aluminum extend from 31 to 49 inches. Lack of weight and collapsible features, plastic foot rest, splint shafts that cannot slip from tapered slots are some of the advantages claimed for the telescopic splints.

The plastic pneumatic splints can be rolled up for carrying and inflate quickly even by mouth. Longitudinal air chambers keep the splint straight, while a transverse chamber at bottom keeps heel elevated. The leg or arm is imobilized by tightening a wax cord. Danger of pressure sores or circulatory embarrassment from swelling of soft parts is eliminated by the pneumatic character of the splint. Where traction is needed, a u-shape bar and Pierson footpiece are incorporated in the splint. The plastic itself washes clean with a damp cloth, making it ideal for an emergency kit.

Types of Sprays

Sprays for wound treatment are a development of the past few years. This year began with a new burn spray coming on the market which featured a kit combining a spray with refill cartridges and standard unit type first aid kits. The idea is to provide the advantages of a painless, sanitary, and rapid spray treatment with the advantages of other types of burn treatment. Another development is the small-size, low-pressure units which can be kept at hand in areas where burn hazards are prevalent. One such spray solution is packed in amber bottles to preserve its tannic acid and antiseptic content.

BURN SPRAY KIT



A more recent development in sprays is their use with antiseptics for sterilizing wounds. A polyethylene squeeze-bottle permits the antiseptic to be applied either as a gentle spray or a free-flowing stream to flush impurities away, in one particular example. This product also uses benzalkonium chloride as the antiseptic.

Kits Themselves

As for first aid kits themselves, the newest advance is a kit particularly designed for ammonia burns. The use of anhydrous ammonia in fertilizer has widened the danger area of this type of burn and has led to the development of the specialized kit. Included in the kit are bandages and pads, antiseptic swabs, eye dressings, bandage scissors, eye cup, plastic bottles of acetic acid, sodium thiosulphate and boric acid solutions and a special instruction sheet.

Poison ivy kits have been seen in previous years, but this year brings one which uses carbonated hydrous zirconia in a base. This product is said to shorten the duration of ivy, sumac, and oak poisoning after infection, as well as to prevent it when applied early.

The development of plastic and other types of waterproof kits has also helped the advancement of the kit idea in first aid. This year, individually-wrapped units in one particular type of kit were placed in cellophane for easy inspection, leakage protection, easy replacement, and long life.

Just to indicate the extent of recent developments in industrial medicine and what an inclusive field it has come to be, let us turn to one other development of 1954—a portable audiometer. This light model weighs less than 11 pounds and has been simplified for easy testing use in the plant first aid office without particular equipment or specially-trained personnel.

AUDIOMETER

It seems that, like safety, first aid has made steady progress throughout the year.

For further information on and names of the manufacturers of some of these products make inquiry to the Editor.

Learning . . . . . the hard way

AT DEATH'S DOOR

A LABORER GOING TO the wash-room opened the wrong door and fell into a sump hole containing nearly 3 feet of boiling water. He subsequently died of the burns he received.

It was only his second day with the company and he was unfamiliar with the plant layout. It was also dark at the time. However, at a subsequent inquiry it was discovered that these were merely contributing factors to the accident. It was revealed that the door to the sump hole was next to the door of the wash-room, and that the former was propped up by two boards. The words "Danger Keep Out" were chalked on the door. The executives of the firm stated at the inquiry that none of them knew of the existence of the sump hole. One is inclined to ask if no one knew of the sump hole, why was the warning chalked on the door?

The inevitable conclusion is that only passing attention was paid to the hazard. The door should have been securely locked; and, as a double safeguard, a large sign fixed to it. As it was, apparently, no instructions had been given to warn employees, and a very ineffective barrier had been placed between the hazard and the worker.

"NOW, ESPECIALLY . . ."

. . . THE SAFETY MAN should say to management about to embark on an expansion or plant-moving program, "is the time to take particular safety precautions." For it is during changes in production that some of the most serious accidents are likely to occur.

For example at one plant, a machine operator injured two fingers

in an improperly guarded machine; and, two days later another operator suffered the same fate in a similar accident. Of course, the trouble was that the machines were unguarded. Now, a guard had been made for the machines, but it had not yet been fitted. It seems that the firm was building a new factory some distance away and the machine shop, in which the guard was being made, had been moved to the new building. The delay in fitting the guard was, of course, traceable to this confusion in moving.

The delay in this case cost four fingers. Change periods are always a good time for accidents; for that reason, they are also a very good time for extra emphasis on safety.

HEAVY, HEAVY HANG OVER MY HEAD . . .

WHILE A MOBILE crane was being used to unload sand from a barge, the single chain holding the grab suddenly slipped, and the grab fell and killed a man who was trimming sand in the barge.

The exact reason for the sudden fall of the grab is not known. It may have been that either distortion of wear of the bottom ring of the suspension cage prevented the suspension hook from properly engaging the ring, so that it slipped off while the crane was being swung around, or that either distortion of the button or the buffer plate in the cross head of the grab allowed the button to suddenly pass through. A third possibility is that the suspension chain itself "bunched" and, for a time, itself acted as the button until it suddenly straightened out and released the grab.

But, even if the exact cause of the crane's failure could be found, the main safety point in this accident would be missed. It is practically a standing rule in most industries with good accident records that no one under any circumstances should ever stand under a crane or any other type of heavy moving device!

The Industrial Nurse

Editor
Rosamond J. Webster
R.N., A.M., Ph.D.

Industrial Nursing Course

To assist the new and inexperienced industrial nurse working either alone or under supervision, the Long Island Industrial Nurses Association is offering a "Nurses in Industry" Educational Program. The purpose of the program is to develop a new awareness of the functions of the industrial nurse in her work situation.

A series of evening lectures will be given, starting Tuesday, Feb. 15, and continuing for five consecutive Tuesdays with the exception of Feb. 22nd. The course will be given at Adelphi College, Garden City, L. I., N. Y. and will be limited to Registered Professional Nurses.

Subjects to be covered in the six lectures are: Organization and Physical Set-Up of a Medical Department; Programs of a Medical Department; Industrial Nurses Working Relationship; Medical & Surgical Emergencies in Industry; Compensation & Legal Aspects of Industrial Nursing; Current Trends in Medicine & Surgery.

The registration fee for the course is $15. Full details concerning the program can be obtained from: Long Island Industrial Nurses Association, Crosby Place, Huntington, L. I., N. Y.

Psychological Problems

Many handicapped persons have found employment in industry. They suffer various psychological handicaps, and all the help given them by plant physicians and nurses to make a satisfactory adjustment to their status will be of service to the worker and the employer as well.

Psychologists who have had wide experience with the physically handicapped point out that the injured person who has personally accepted his loss is less affected by discriminatory attitudes of the non-injured than the person who has not accepted his handicap. The social loss of the injured person, his feelings of non-acceptance as a group member, has a realistic basis. Whether or not the individual has adjusted to his loss, he will experience difficulties in his relationships with non-injured persons. Where the person devaluates himself because of his loss, he will feel that a non-injured person is more valuable, more likeable, and more worthy. He will suffer keenly that he happens to be on the short end of this relationship, but he will see it as an unavoidable and natural fact. He will tend to feel that no one can change this state of affairs, and that he can try to behave as if he were not injured.

It is an emotional problem and a very real one. If he has accepted his major injury, he will be helped psychologically to adjust himself to the reality, face the situation, and try to make the best of the problems that he consequently faces. It is in this area of mental adjustment and acceptance of a problem which cannot be altered that the industrial nurse can help such workers. Self-pity, complaints, petulance, jealousy and other emotional reactions, that affect production and attitudes of non-handicapped fellow workers, do the handicapped no good. Understanding, encouragement and help in various ways will benefit the handicapped in making realistic adjustments.

The Common Cold

With the arrival of the fall season we can expect absenteeism caused by the common cold to take a spurt, much to the annoyance of the workers involved, and maybe even more so to management with orders to fill. Accumulated scientific evidence seems to indicate that colds are caused by a virus. There has, however, been considerable difficulty in differentiating the specific virus. The only animal to which a cold has been experimentally transmitted is the chimpanzee. The use of this animal is quite expensive, especially since its tendency to develop pneumonia is so common.

The usual common cold is often blamed for the development of sinus infections, and infections of the ear, mastoids, bones, pneumonia, and even hair abscesses. But research has shown that such involvements are due to various bacteria and not to the virus that causes colds. Reports of controlled scientific studies show that chilling alone will not cause a cold. Among volunteers who were inoculated with the cold virus, the attack rate for those who were also subjected to chilling was no higher than those who were not so exposed. Colds occur in all climates and at all seasons. In the United States they are most prevalent in the fall and spring. There has been much experimentation with autogenous vaccines as well as with stock vaccines, but they have not been found to be consistently helpful.

In a medical department, the physician must of course make the final determinations as to what therapy to apply or recommend. The nurse should not try to prescribe treatment or to dispense drugs without medical orders. It might be best for the industrial nurse to obtain from her immediate medical chief a statement in writing, to guide her in the advice she may be asked to give to sufferers from common colds.

Industrialist Suggests Health Study

THE PUBLIC PRESS carried a statement on September 15th indicating that Benson Ford of the Ford Motor Company had urged the establishment of a permanent private national commission to deal with the country's growing health problems. Pointing to the rapid development of health and accident insurance programs in business and industry, he stated they were "setting a target for the whole population to aim at and were determining the pattern of today's and tomorrow's demand upon hospitals, doctors and insurers."

He further stated that "our health system is not set up to meet a present and expanding demand. Each year, through growing participation in group insurance plans, additional hundreds and thousands of Americans open a drawing account on the health bank. The demand on our medical plant seems to be expanding at a revolutionary, rather than evolutionary, pace. At the same time, industry programs are creating a broad class of more favored people, as far as health is concerned."

This excerpt from an address of some length is indicative of some of the thinking by industrial leaders. It needs to be emphasized that the entire subject is still a controversial one, especially insofar as governmental participation is concerned. Mr. Ford went on to say that "there might be more voluntary cooperation with the government to the end of making the best possible use of private and public resources and, incidentally, of keeping the reins in private control." All who are active participants in industrial medical programs need to be aware of management's attitude toward health conservation, health promotion and health service. The next decade may bring some changes in these areas, and it is the informed professional personnel who may help to steer these developments into practical and effective channels.

Fatal Accidents

ACCORDING TO the data contained in a recent issue of a statistical bulletin of a large life insurance company, accidents take more than 40,000 lives each year among men of the main working ages of life, that is from 15 through 64 years. Only heart disease and cancer account for a greater number of deaths in this broad age group. In the 25 years of life from 15 through 39, more men die from accidental injuries than from any other cause. Motor vehicle mishaps are the outstanding accident hazard for men under age 65, being responsible for nearly half of all the fatal injuries among them.

The three leading causes of accidental death—motor vehicles, falls and drownings—were responsible for about seven out of every ten deaths. Other important categories were burns and conflagrations, firearms and poisonings by gases, solids, or liquids. Nearly one fifth of all accidental deaths among men at the main working

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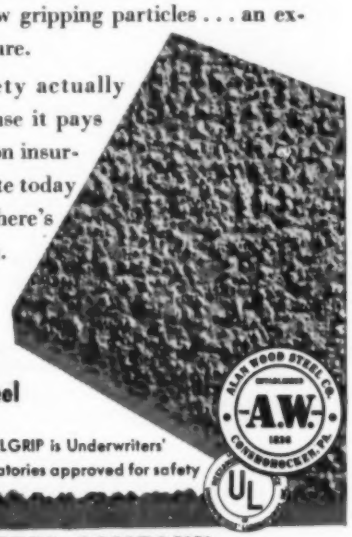

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ages of life arose out of and in the course of employment. Past early adult life the proportion rose to nearly a quarter.

Much progress has been made in the past 20 years in reducing accidental deaths though much still remains to be done through education, safety programs, safe construction, elimination of industrial hazards, etc. Perhaps the educational aspect needs the greatest emphasis.

Functions of an Industrial Nurse

A BASIC SUMMARY of the functions of an industrial nurse in a one-nurse service is contained in the American Journal of Nursing for September 1954. Five basic areas are incorporated in the services of industrial nurses, as set out in this statement: (1) Administration and operation of the health service department; (2) Nursing care—health maintenance; (3) Safety; (4) Health and welfare benefits; and (5) Community health and welfare agencies.

Under (1) covering administration and operation, the following items are included: participation with management and the medical director in the formulation and implementation of administrative policies of the health service department; maintenance of a system of records and reports; training and supervision of auxiliary nursing personnel and, with others, planning and making provision for the safe handling of injured and ill persons until professional medical care is available; participation in the control of occupational hazards and accidents; advising on plant sanitation; advising on food facilities and services; participation in planning for emergency care in catastrophic emergencies and national defense; periodic evaluation of the total health service. Under section (2) covering nursing care and health maintenance, emphasis is placed on occupational injuries and illness; nonoccupational injuries and illness; health examinations; recording of observations, treatments and dispositions; health counseling and information; home visits to workers who are absent from work because of injury and illness.

It is evident that the well-trained and experienced industrial nurse has to be well equipped in several areas if she is to fulfill the responsibilities of her job effectively. That is one major reason why she has the obligation to keep abreast of advances and activities in her professional field, to read journals like the present one, and to keep up-to-date in a number of areas.

Workmen's Compensation Legislative Changes

IN 1953 all but four of the 44 state legislatures meeting that year made changes in their workmen's compensation laws. Two of the most important amendments were in Kansas and Oklahoma, both of which adopted occupational disease coverage for the first time. Now all of the workmen's compensation laws except two, those of Mississippi and Wyoming, include coverage for some or all occupational diseases. Both Kansas and Oklahoma provided for schedule coverage. Maine and North Carolina extended the list of occupational diseases in their laws.

The trend toward increasing benefits continued. Benefits of one or more types were raised in 30 states. Twenty-one states raised maximum weekly benefits for temporary total disability. Most of these increases equalled $3.00 a week, with the largest increase being made in South Carolina where the weekly minimum was raised from $25 to $35 a week. North Dakota raised the maximum percentage of wages for computing weekly benefits from 66⅔ to 80 percent for all types of disability cases. Nevada also increased this maximum from 70 to 80 percent for permanent total disability cases. The 80 percent had already applied to temporary total disability cases. In Connecticut this rate was raised from 50 to 60 percent and in Colorado from 50 to 66⅔ percent. Funeral benefits were raised in 12 states, including increases from $250 to $425 in Pennsylvania; $400 to $450 in Michigan. Five of the 18 states in which medical benefits are still limited raised the maximum benefits payable for this purpose: Colorado to $1,000; Montana, Tennessee and Kansas to $1,500; and Vermont to $2,500. Coverage under the laws was ex-

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tended in 12 states, and injury fund provisions were amended in Oklahoma and Wisconsin. A number of additional changes were enacted. It is recommended that all industrial nurses should keep an up-to-date file of workmen's compensation laws in their own states.

Nutrition of Industrial Workers

STUDIES BY scientific bodies have indicated that adequate nutrition is generally necessary for high production levels. A recent study covered the nutritional habits of 610 male industrial workers employed in four chemical and pharmaceutical plants in central New Jersey. The subjects were men who reported for routine physical examinations and who consented to participate in the research. The study included: (1) a record of the usual food intake, obtained by a thirty-minute interview with each worker; (2) a seven-day food consumption record kept by each person studied; (3) blood analysis; and (4) a special inspection by a physician for signs of nutritional deficiencies. The investigation also included weight ratings, general appearance, type of work, income level, educational level, religion (because of fasting periods), ethnic group, dietary ratings, vitamin supplements, and physical inspection ratings.

Low milk consumption by a number of the men resulted in low ratings in calcium, phosphorus and riboflavin intake. Thiamine and ascorbic acid intakes were frequently below recommended levels. Although the men consumed relatively large amounts of meat and enriched bread, their high consumption of unenriched pastries, sweetened beverages, and candy bars probably explained the low thiamine values. The low ascorbic acid intakes were ascribed to low consumption of leafy green vegetables, and low consumption of citrus fruits and tomatoes.

No cases of acute nutritional deficiency diseases were observed. Suboptimal nutrition and also obesity were observed widely throughout all groups. Inadequate breakfasts and between-meal snacks of sweet foods frequently were contributing causes of unbalanced diets. Evidently measures should be taken when possible, by education or otherwise, to improve the nutrition of industrial workers by making appetizing, nutritious foods available at eating times and by emphasizing the desirability of selecting adequate diets.

Disability Ratings

IT HAS FREQUENTLY been pointed out in these columns that the industrial nurse should be particularly careful and precise in writing out all facts regarding an accidental plant injury, including the statements made by injured workers, by witnesses to the accident, notations of time of day, description of place of occurrence, etc. Evaluation of disabilities resulting from accidents is often a difficult task, particularly when subjective factors may play an important part in the injured workers complaints and claims.

A committee of the International Association of Industrial Accident Boards and Commissions recently drew up the following suggestions: (1) Compensation benefits and payments during the acute phase of illness following accident or occupational disease should continue until the condition becomes static or until the claimant is able to resume full or modified employment. (2) Maximum medical restoration, along with adequate readjustment from a physical, sociological and mental standpoint, is a necessary prerequisite of disability rating. (3) The process of rehabilitation is both desirous and a necessary forerunner of successful permanent disability rating. (4) Permanent disability is a clinical rather than a legal problem. (5) In moderately severe and social disabilities, pensions for permanent disability should be calculated and awarded on a lifetime basis. (6) Any rating schedule should be used only as a guide in disability evaluation. (7) Disability awards and pensions should be subject to review during the lifetime of the claimant. (8) Our present system of compensating for permanent disabilities has not kept pace with advances in modern industry and social thinking. (9) At the present time uniformity and standardization of permanent disabilities is not possible. (10) There is a definite need for a complete scientific study of all disability ratings in the United States.

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The Fire Front

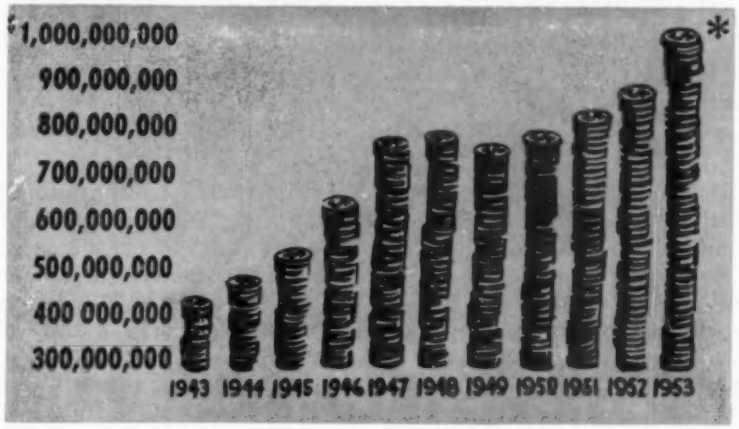
Public Opinion vs. Fire

TODAY'S FIRE department is becoming more and more comparable to a well operated municipal health department as it works with increasing emphasis to prevent fires—to stop them before they start, Percy Bugbee, general manager of the National Fire Protection Association, told the first session of the International Association of Fire Chiefs' convention in Houston. No taxpayer would stand for a health department that waited for epidemics to occur before going into action, he said, and the public is fast developing the same attitude about the mission of the fire service.

"The public wants to prevent fires and wants leadership from its fire department to that end," he told the fire chiefs. As evidence of this demand, he cited the IAFC's own campaign to have all homes regularly inspected for fire hazards.

Among other encouraging signs of the public's growing awareness that it can "help itself" to prevent fire, he spoke of the increasingly widespread observance of Fire Prevention Week. Notwithstanding such gains, he said, our biggest problem "remains the tremendous number of common garden variety of fires."

The whole fire picture of today, he reported, amounts to "about two million outbreaks of fire a year throughout the United States and Canada or approximately a fire every 16 seconds. Noticeable, too, in the whole picture, he said, is a trend of greater "cooperation between all the national organizations concerned with the problems of fire protection and the problems of the fire service."



Fire Losses Top $1,000,000,000

For the first time in history the nation's fire losses have topped the billion-dollar mark in one year, the National Fire Protection Association reports in its estimate of 1953 fire losses.

It was also the fifth successive year in which U. S. fire losses have increased, the NFPA reported in its annual classification of last year's fires and fire losses. The report states that approximately 1,899,400 fires of all types in the United States in 1953, caused a direct loss of $1,021,720,000—an increase of 80 million dollars over the 1952 total.

In a further breakdown, the NFPA estimated last year's building fires totaled 727,000 and caused $889,120,000 damage. An additional 1,172,400 fires not involving buildings—aircraft, motor vehicles, forest, ships, rubbish, grass fires, etc.—accounted for an estimated $132,600,000 loss.

The NFPA pointed out that while the number of 1953 building fires represents a 3.4 percent increase over 1952 figures, the 1953 loss is 12 percent more than the previous year and one industrial fire accounted for almost one half of this increase.

A tabulation of the nationwide distribution of fires and losses by occupancy and cause also brought out these changes in 1953 experience as compared with 1952: a 5.8 percent increase in the number of dwelling fires (420,000 total in 1953); a 25 percent increase in the number of fires in barns; a 10.5 percent decrease in the number of warehouse fires; a 6.3 percent decrease in the number of automobile fires; an 18 percent decrease in the number of forest fires; and a 22 percent decrease in the number of fires caused by defective or overheated chimneys and flues.

Chart by courtesy of National Fire Protection Association.

Controlling Fire Losses

THE FIRE THAT destroyed a General Motors Plant last year produced the largest single industrial fire loss on record. Large loss fires in single area buildings are increasing. While General Motors is large enough to survive its loss, over 70 per cent of other firms who suffer a major fire loss fail within a few years, according to C. V. Batley, Insurance Surveyor, Bethlehem Steel Co. in an address at the Association of Iron and Steel Engineers Convention in Cleveland.

The more important fire hazards in the iron and steel industry include congestion, considerable combustible construction in older plants, the presence of flammable oils and gases coupled with numerous large heat producers, the generation and use of electricity, and numerous spot hazards such as woodworking shops and coal tar by-product plants. The industry is carrying on programs to control these hazards. They vary in detail but, where successful, they fix authority and responsibility for the program on some specific person and have four fundamental features in common: (1) knowledge of the potential and possible fire hazards, (2) detection of the fire hazard, (3) selection of steps to correct or control the hazards, and (4) application of those selected steps.

Coordination between those responsible for fire protection and the various engineering, operating and maintenance groups has resulted in the elimination or control of many fire hazards. Training programs for the employees have resulted in fewer fires and the extinguishment of most fires in the incipient stage. Many locations have established well trained and well equipped fire departments.

In addition to automatic sprinklers for over-all protection, foam, water spray, foam spray, carbon dioxide and dry chemical systems protect special hazards. In spite of these accomplishments losses are increasing. While industry engineers have cooperated, still more is needed of them. Their ability is needed to work out solutions to some of the problems that are causing large losses, such as those occurring in large single area buildings. For years losses have been controlled by the physical division of values by fire stops and/or automatic protection. These appear impractical in many modern industrial buildings. What are the practical corrective steps?

"Bennington" Fire Shows How Clothing Protects

A REPORT, based on the treatment of the many burn casualties from the explosion and fire on the *USS Bennington*, indicates the protection afforded by regular clothing against flash fire. The summary of the findings appeared in "DESLANT INFORMATION BULLETIN, 1 July, 1954."

While the findings are based on the naval uniform type of clothing, the recommendations should be of value to industrial safety engineers and directors and civil defense authorities as an indication of how ordinary clothing can be worn to give the maximum protection against flash fire hazards. Here are some of the facts from the *Bennington* disaster:

1. Tuck Trouser Legs Inside Socks. Dungarees or blue trousers tucked inside the socks afforded greater protection to those who wore them in this manner. Clear and distinct burn markings indicated exactly how the patient had worn his clothes at the time of the fire.

2. Wear Shirt Sleeves All The Way Down And Buttoned. Those who had short-sleeved shirts or sleeves rolled up were burned just that much more extensively than those with their shirt sleeves all the way down and buttoned. It is also important that the tail of the shirt be tucked into the trousers and under the belt.

3. Button Up The Neck Of Your Shirt. Those who wore their shirt necks unbuttoned exhibited a clear-cut "V" area that was burned. This area is very important in burns because it is close to vital breathing organs.

4. Wear Undershirt And Shorts. Those who were not wearing these items were burned much more severely.

5. Cotton Items Withstand Heat Well. Cotton proved to be an excellent protector against flash flame and accompanying heat.

6. Wear Hat Brims Down. Much better protection for the scalp, forehead, eyes, etc., was evident for those who were wearing their hat brims turned down all the way around than for those wearing the brim up.

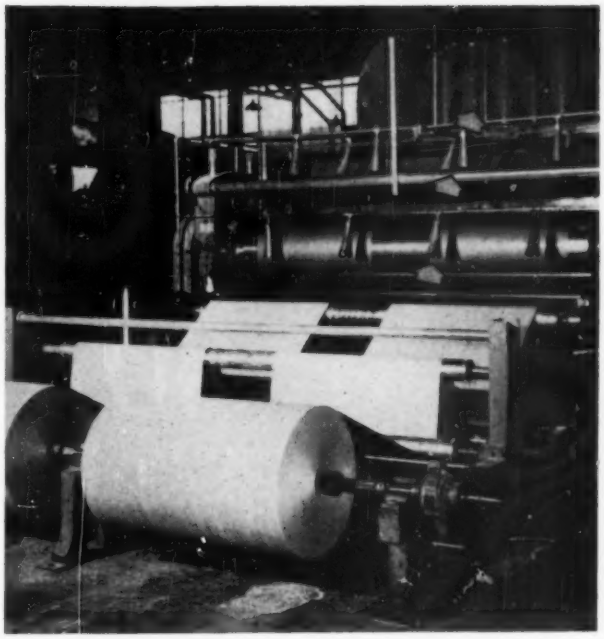
7. Gloves. It goes without saying that gloves would have prevented many extremely bad burns of the hands.

Electrical Safety

HIGHER CIRCUIT currents and voltages will require increasing inspection vigilance in future electrical installations, declared C. A. Biddulph, Eastern division manager of The Thomas & Betts Company recently. Speaking before the annual conference of the International Association of Electrical Inspectors (Eastern Section), he cited this as a result of the ever-growing demand for more electric power. He said that insulation and grounding standards would become more exacting as a result.

As an example of this trend, the speaker mentioned the development of case-hardened locknuts that bite into box walls and stay tight, thus assuring a good ground; and of one-piece, self-insulated connectors.

Biddulph urged his audience to require that manufacturers build more safety into electrical products. The speaker praised the contribution of the electrical inspector's practical knowledge to better, safer and easier to use electrical products. He pointed out that manufacturers consider this a great service to the industry.



AN EXTINGUISHING SYSTEM HELPS MAKE A SAFETY RECORD

TWENTY-FIVE MILLION manhours with an ***average*** accident frequency rate of 5.39 is the enviable safety record achieved by Synthane Corporation, Oaks, Penna., manufacturer of industrial thermosetting laminated plastics. While the manufacture of laminated plastics is not a particularly hazardous business, the resins, alcohol, and various types of paper and cloth used in the process do present safety hazards not normally encountered in many industries.

Fire is probably the principal hazard, since every pound of laminated plastics produced is made from dry filler materials saturated with flammable resins in an alcohol solvent. Manufacturing begins at 60-foot long impregnating machines which coat the rolls of filler material. Although the solution in the dip tank is maintained well below the critical temperature of the solvent, there is always the possibility of a flash fire from a random spark or static electricity. Because of the materials involved, manual extinguishing methods would be relatively slow and rather limited in effectiveness.

To meet the flash fire dangers, the company had an automatic fire smothering system designed and installed, which operates 24 hours a day. Typical of the protected machines in the plant is the one shown above. It is served by a bank of 50-pound capacity carbon dioxide cylinders. CO_2 is stored in the cylinders as a liquid under 850 psi. The cylinders, which have automatic valve release mechanisms, are manifolded together for simultaneous discharge in case of emergency.

Nerve center of the extinguishing system is a link-type heat detector above the impregnating bath. Should fire break out in the flammable bath, the detector automatically actuates the cylinder-release mechanism. When released from the cylinder bank, the CO_2 rushes through piping, under its own power, to a series of 10 discharge nozzles aimed directly at the surface of the impregnating bath. As it hits the air, the CO_2 expands to 450 times its st .ed volume, and completely envelops the surface of the threatened area.

By excluding the air from the fire, the gas quickly puts out the fire. Being inert, the CO_2 cannot adulterate the chemical bath, or harm the machine or the material passing through it. Of course, it dissipates and leaves no hard-to-remove residue. As an added safety feature, the system throws an explosion-proof switch which shuts down all electrical machinery. A manual release can be used to operate the system.

Because of its rural location, adequate fire protection is doubly important to the plant. With no city fire department to lean upon in an emergency, management had to become receptive to all feasible protective measures. Originally a building 150 by 200 feet, the plant now covers approximately 165,000 square feet and is divided into 13 separate areas, each protected by standard fire walls and fire doors. A two-source sprinkler system covers every square foot of the working area.

The primary water source is a 50,000 gallon elevated tank, 100 feet high, which maintains a constant pressure of about 50 pounds per square inch on each sprinkler head in the plant. The second source is a 200,000 gallon storage tank. A fire pump is directly connected to an underground 8-inch ring which circles the plant to serve fire hydrants and sprinkler connections in the various areas. The plant has also developed a highly trained fire-protection crew. To this group goes a large part of the credit for the company's excellent protection rating.

Wholehearted acceptance of sound safety practices throughout the plant have helped make employees feel the company is not only a safe place but also a good place to work. Out of a total of 765 employees, more than half (440 to be exact) have been with the company 10 years or longer. It is undoubtedly more than mere coincidence that this impressive employee relations record is matched by an equally impressive safety record.

Picture by courtesy of Walter Kidde & Co., Inc.

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EXTINGUISHER PRESSURE TESTS

HAND-PORTABLE EXTINGUISHERS are essentially first aid fire appliances that are provided close at hand for immediate use when needed, to cope with fires in their incipiency. Naturally, therefore, it is extremely important that instructions regarding their maintenance be carefully followed. They must always be fully charged, in their designated places at all times, and ready to operate efficiently at any moment without delay or explosion danger.

Like any other piece of mechanical equipment, they are subject to deterioration in varying degrees and from numerous causes—design, age, corrosion and mechanical damage, just to mention a few. It is entirely possible that, under such conditions and over a period of years, the shell of an extinguisher can become weakened to such an extent that it will burst when pressurized by operation, rendering it useless and perhaps injuring the user.

To prevent this, all extinguishers should be given a hydrostatic pressure test every 5 years, to be sure they still can safely withstand the pressures which might be generated when they are used. An outline of standard procedure has been drawn up and promulgated by the National Fire Protection Association and is reprinted on the next page.

HYDROSTATIC TEST PROCEDURE

Hydrostatic tests, as called for in this standard, shall be conducted by one of the following:

(a) The manufacturer of the extinguisher.

(b) A qualified service agency.

(c) A qualified testing laboratory.

(d) The user of the extinguisher (if competent personnel and facilities are available).

Apparatus

Important: In no case should air pressure be used for this test as violent rupturing will result in case of failure.

The recommended apparatus for this test consists of the following:

(a) A suitable hand-operated or power-operated hydrostatic pump capable of producing pressure preferably not less than twice the test pressure. An air pressure pump must not be used for this purpose.

(b) A flexible connection attached to the pump and provided with a fitting for attachment to the extinguisher.

Note: It is preferable that this be a clamp type fitting capable of connection to the discharge nozzle of the extinguisher so as to test complete extinguisher assembly including the hose, except on wheeled units in which case the nozzle is removed and complete remaining assembly (including hose) is tested.

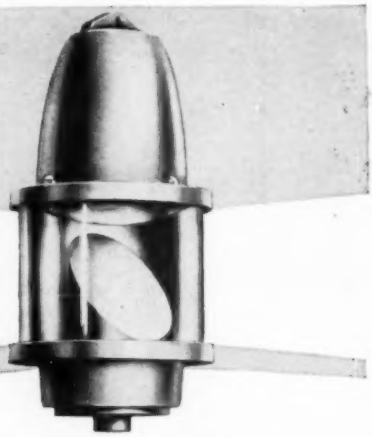
(c) A calibrated pressure gauge with a capacity preferably not less than twice the test pressures.

(d) Necessary valves, fittings, etc., for regulating and maintaining the required test pressures.

(e) A substantial shield which should be placed between the extinguisher under test and the operator of the pump.

Noise levels are no obstacle to this safety signal! Nail mills, boiler factories, shuttle rooms no longer present a signalling problem.

Forget NOISE!



27S BEACON RAY

The warning beam of light from this Beacon Ray will penetrate through any noise levels! Rotating through 360° this concentrated beam will reflect off any bright surface to warn the unwary even though they may be facing the other way.

With or without audible signals in service a Beacon Ray with its greater intensity and range will pin-point the location of danger. An audible signal will fail to do this. Write for full details on the new low-cost Federal 27S Beacon Ray warning light.

FEDERAL SIGN and SIGNAL Corporation

Formerly: Federal Enterprises, Inc.

8731 SOUTH STATE STREET CHICAGO 19, ILLINOIS

(Use Key # Z-21 on Inquiry Card on page 73)

Preparation for Test

The extinguisher shall be emptied and washed. The internal parts such as acid bottle and cage shall be removed.

Steps Before Application of Pressure

Extinguisher shall be filled with water.

Important: Be sure no air is entrapped in the extinguisher during test, otherwise violent rupturing may occur in case of failure.

Extinguisher shall be coupled and placed behind protection shield.

Hydrostatic Pressure Test

Pressure shall be applied at a rate of rise to reach 300 pounds per square inch in approximately one minute.

Pressure of not less than 300 pounds per square inch and not more than 350 pounds shall be applied to hand types and a pressure of 400 pounds to wheeled types.

The extinguisher should be checked for leakage, distortion, or other signs of failure.

Pressure shall be held for one minute, after which pressure shall be released.

After Test

Any extinguisher which showed leakage, distortion, or other signs of weakness shall be returned to the manufacturer for repair or discarded.

Extinguishers which do not show any of the faults noted may be recharged and returned to normal service.

Test Record

Each extinguisher which favorably passes the hydrostatic test shall be fitted with a record tag of metal or equally durable material on which the following shall appear:

(a) Date of test.

(b) Test pressure.

(c) Name or initials of person making the test.

By courtesy of Factory Insurance Association.

National Fire Codes

THE NATIONAL Fire Codes, a compilation of 162 fire safety standards as developed by the National Fire Protection Association, have been published by the NFPA in a new six-volume edition.

First issued in 1938, the National Fire Codes have been periodically revised and expanded. All standards in the latest edition have been completely revised as of July 30, 1954. Also, the Codes have been enlarged to six volumes for the first time with the addition of the new Transportation volume (No. VI) containing fire safety standards for air, marine and highway transportation.

Fields covered by the other five volumes are: Vol. I—Flammable Liquids and Gases; Vol. II—Combustible Solids, Dusts, Chemicals and Explosives; Vol. III—Building Construction and Equipment; Vol. IV—Extinguishing Equipment; Vol. V—National Electrical Code and other electrical standards.

The Codes and the NFPA Standards they contain are intended to provide reasonable safety to life and property, avoiding provisions involving inconvenience and expense not essential to the objective of reasonable fire safety. They are purely advisory as far as the National Fire Protection Association is concerned, but are widely used as a basis of good practice by property owners and others, and for legal and insurance purposes in the United States, Canada and other countries.

NFPA Standards are prepared by nearly 100 technical committees made up of technical experts representing industry, government, the public and the insurance field.

Many of these same standards have also been adopted and published by the National Board of Fire Underwriters, the Dominion Board of Insurance Underwriters and other organizations.

The National Fire Codes, $6 per volume, may be obtained from the Publications Department, National Fire Protection Association, 60 Batterymarch Street, Boston, Mass.

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FYRE-ARMOR
PROVEN SUCCESS!

PROTECTS workers exposed to flames and high radiant heat
REDUCES incidence of heat exhaustion and accidents
PROVIDES completely unhindered body action and mobility
INCREASES PRODUCTION EFFICIENCY.

FYRE-ARMOR
- reflects more than 95% of all radiant heat
- maintains normal body temperatures
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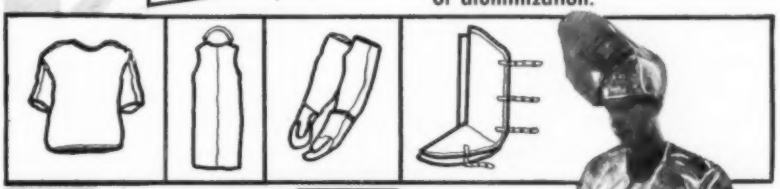
Now available to industry after years of exhaustive research, development and amazingly successful performance.

FYRE-ARMOR industrial heat and flame-resistant apparel is made from unusually fine fire-resistant fabrics fused by a special patented process to metallic layers and then topped by specially treated durable aluminum foil which provides a higher reflectivity than any other process of aluminization.



Lightweight special FYRE-ARMOR equipment includes: face shields, vests, aprons, gloves, leggings with spats and complete hoods. Fyre-Armor tarpaulins, blankets and drop-curtains are proven superior for shielding inflammable materials and for rescue work.

Complete Proximity Suits are available for fire fighters who work in the immediate vicinity of flame and who are subjected to high heat radiation.

The amazing FYRE-ARMOR Rescue Suit protects the wearer in 2500° radiant heat . . . permitting complete freedom of action and providing extra safety.

Whatever your fire-safety problem may be, FYRE-ARMOR engineers will survey your requirements and make recommendations at no cost or obligation.

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(Use Key # Z-22 on Inquiry Card on page 73)

September Fire Losses Drop From '53 High

ESTIMATED FIRE losses in the United States during September amounted to over 64 million dollars, according to the National Board of Fire Underwriters. This $64,087,000 loss represents a decrease of 6.6 percent from losses of $68,613,000 reported for September, 1953, and a decrease of 18 percent from losses of $78,163,000 for August, 1954.

Losses for the first nine months of 1954 now total $667,772,000 a decrease of 02.3 per cent from the first nine months of 1953, when they amounted to $683,345,000. These estimated insured losses include an allowance for uninsured and unreported losses.

DOWN

. . . the ladder of success!

(a fire training story)

ON A RECENT SUMMER MORNING on the grounds of the Wernersville State Hospital, Wernersville, Pa., a group of men rushed into a blazing building, extinguished the fire within 15 seconds and emerged through clouds of heavy smoke. Although the building was purposely set on fire, it was not a case of arson; neither was it a false alarm.

Dramatic Spectacle Real

The dramatic spectacle was only one of a series of real fire-fights staged by the Rescue and Fire School of the State Department of Welfare. This unusual school is composed of fire marshals and the staffs of 32 state-owned hospitals. Once a year they hold a 3-day fire prevention drill at one of the institutions. This year, it was the Wernersville hospital that seemed to be burning.

Alan D. Reynolds, Secretary of Welfare, sums it up this way: "Fire prevention in our state-owned hospitals requires eternal vigilance on the part of our fire marshals. The Rescue and Fire School is a most important factor in contributing toward the safe-guarding of lives of over 50,000 patients."

On a selected part of the grounds at Wernersville the fire-fighting school resembled a set in Hollywood. Flames and smoke poured from buildings. Men ran about in gas masks and fire-fighting costumes. Fire victims, securely fastened to stretchers were lowered from second-story windows down ladders. Nearby, stood the rescue and fire fighting truck given recently to the Wernersville Hospital by the State Council of Civil Defense. Scattered over the grass were scores of fire extinguishers. Water and chemicals shot out from hoses held by eager hands. Nearby stood a group of men, each with a rope in his hand. They were being instructed in the art of tying the 8 basic knots used in state civil defense courses. Also they learned how to use a rescue coil, a rope coiled so a man can carry it on his back.

Class of Victims

Members of the class acted as victims. As they were lowered to safety, every false move on the part of rescuers was noted. If necessary, the rescue was repeated until perfection was obtained. Other classes went through their paces extinguishing fire and entering flame-filled steel paneled rooms in buildings specially constructed for the drills to rescue simulated victims.

Classes were composed of 7 groups of approximately 8 men each who rotated in attending the various courses of instruction, which included knot-tying, use of rope and ladder, rescue technique, use of gas masks, use of fire extinguishers, extinguishing structural fires, and fire inspection practices.

Classes on Everything

Inspection practices form an important part of the training school. Under the direction of a fire marshal a group of men toured barns, maintenance buildings, and wards looking for fire hazards. Members of the school wore gas masks in a smoke-filled room to learn their uses, and were instructed in the maintenance and use of all-purpose gas masks and a self-contained breathing apparatus which generated its own oxygen. Several types of fire extinguishers were demonstrated, including such varieties as soda-acid, clear water, foam, carbon tetrachloride and dry chemical. Each was used to combat the classification of fire for which it was designed. A special demonstration was made on a magnesium fire, requiring a special type of dry chemical powder to extinguish it. The final course consisted of a lecture on the coordination of various departments in a hospital to get employees fire conscious.

Summary of the students' reactions—they liked it and are looking forward to more "useful" fires.

Picture by courtesy of Pennsylvania State Department of Welfare.

The Big Fires

According to A. Bruce Bielaski, an assistant general manager of the National Board of Fire Underwriters, one-fourth of last year's fire loss in the United States was caused by big fires that consisted of less than one percent of all fires.

Speaking at the sixth annual Florida State Fire Prevention Conference, Mr. Bielaski also emphasized that industrial dispersion—the fire hazard involved in the movement of large plants outside city limits—is a cause of growing concern to individual citizens as well as industry and the fire insurance business. His talk was devoted to large-loss industrial fires—those that cause damage or destruction of property in excess of $250,000—and what steps are being taken to check them.

Mr. Bielaski told the conference that the National Board had prepared a brochure dealing with the problem of big industrial fires and was distributing it to those most concerned—industrial management, architects, construction engineers—and is also starting work on a film designed to help train fire brigades.

The National Board is making a study of large-loss fires to determine why so many little fires become big ones. While the study is incomplete, the cases afford striking examples of failures to pay heed to well-known prevention principles.

In conclusion Mr. Bielaski pointed out that the nation's fire loss, high as it is, may be less than it was 10 years ago, if based or adjusted to the purchasing power of today's dollar. While the estimated fire loss for last year is more than twice the reported losses for 1944, the dollar was worth more than twice as much then as it is today and there has also been more than $35 billion of new building and a big population increase.

Another encouraging factor to which he pointed is the large number of cities showing a marked improvement, especially in water supply, building laws, structural conditions, fire prevention activities, fire alarm systems, and the fire department itself.

SAFETY FIRST — BE — CAREFUL
NOTICE THESE DOORS MUST BE KEPT CLOSED
BE CAREFUL SAVE A LIFE IT MAY BE YOUR OWN
HELP KEEP THIS PLACE CLEAN
THINK ACCIDENTS ARE AVOIDABLE FORGET THE ALIBI.
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WARNING CURRENT —ON—
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NO PARKING AT ANY TIME
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SATISFACTION GUARANTEED OR YOUR MONEY REFUNDED

(Use Key # Z-23 on Inquiry Card on page 73)

New Classification of Insulating Materials

International agreement has been reached on revision of the 1935 classification of insulating materials, Rule 34 for rotating machines and transformers, issued by the International Electrotechnical Commission. This agreement was reached by national committees of 13 member countries of a Technical Committee of the International Electrotechnical Commission meeting for the 50th Anniversary Celebration of the IEC, September 1–16.

It is proposed to publish the new classification as a separate document applicable to all types of machinery and apparatus. In addition to the previous standards, new classes of equipment will be included. Maximum operating temperatures will be assigned to the various classes.

KEEPING UP WITH . . .

Recent Developments In Fire Protection

NEW PACKAGING OF FOAM CHARGES

FOAM CHARGES FOR 2½-gallon Foam Fire Extinguishers are now packed in moisture-proof plastic bags by National Foam System, Inc. The "A" and "B" Chemicals are enclosed in individual heat-sealed polyethylene plastic bags with instructions for use printed plainly on the front of each.

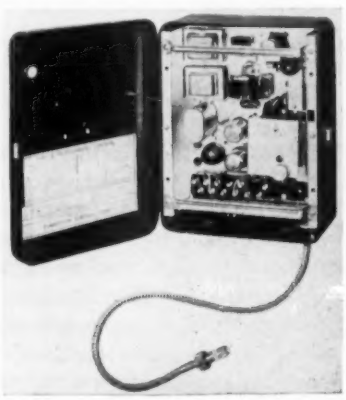
The manufacturer states that no deterioration will occur because of climate; the bags afford absolute protection from moisture. The new packaging also results in shipping economies, easier handling, less storage space. Replacing metal cans, the filled plastic packages weigh 13.4% less and permit an outer carton 35% less in volume. They are more easily disposed of when empty. The charges can be used in any make of 2½-gallon foam fire extinguisher. One charge produces more than 20 gallons of tough, fire-smothering foam.

For details, use Key # FP-1 on Inquiry Card on page 73.

CONTROL

COMPLETE PROTECTION against explosion hazards of burning fuel is offered to users of light oil, gas, and combination light oil/gas burners by the new Fireye Combustion Control System FJ-2 announced by Combustion Control Division, Electronics Corporation of America, Boston, Mass. The system extends to commercial burners the flame failure safety previously available only with large industrial heavy oil burners.

Employing the flame-sensitive "Firetron" Cell, the Fireye System visually monitors oil and gas, main and pilot flames, and shuts off all fuel two to four seconds after the flame goes out. It automatically programs the startup, operating, and shutdown cycle of the burner, permitting unattended operation. On piloted burners, it does not allow the main fuel valve to open until the pilot flame is established. Where direct electric spark ignition is used, the programming control provides a five second trial-for-ignition period. The control cycles each time the operating or limit control closes, but must be manually reset following flame failure. It includes a safe-start feature whereby component failure or the presence of flame prior to startup will prevent burner operation.



The control is rugged in design, built to withstand vibration and give continuous performance under the most adverse operating conditions. Its plug-in chassis provides maximum accessibility and ease of installation.

For details, use Key # FP-2 on Inquiry Card on page 73.

FOAM & WETTING AGENT PROPORTIONER

FOR EFFECTIVE firefighting American-LaFrance-Foamite Corporation announces a new device called a Proportioner. It attaches to the 2½ in. discharge gate of a Pumper and quickly produces Airfoam for extinguishing gasoline, oil, or grease fires, etc. It is designed to draft 6% solution, or by use of an adapter, will draft 3% solution.

A Wetter Water Metering Device is a separate part of the unit, and has two positions, one for drafting Wetter Water solution for extinguishing ordinary combustible type fires, and one for flammable liquid fires. It can be switched from one position to the other in seconds. After using the Wetter Water solution however, the hose should be flushed with untreated water before switching to the Airfoam solution.

For convenience or necessity it can be attached to 2½ inch hose line

remote from the Pumper, but from the Pumper position up to 400 feet of 1½ inch hose can be used on the outlet side of the Proportioner with excellent operation of the Airfoam-Generating Nozzle, so the necessity for use in the hose line itself would likely be infrequent.

For details, use Key # FP-3 on Inquiry Card on page 73.

PUSH-BUTTON EXTINGUISHER

WITH THUMB-BUTTON trigger, and 35 foot range, this all-new dry chemical extinguisher provides long-distance, panic-proof fire protection, according to Randolph Laboratories, Inc.

The new units, approved by Underwriters' Laboratories, and available in 6, 12, 20 and 30 pound sizes, can stop large oil and gasoline fires in seconds. Operating under 500 lbs. pressure, and long-range nozzles, the units can attain record 40 foot streams. Painted with the brilliant, official "Highway Caution" yellow, and equipped with color-gauges to indicate correct weight, Randolph "Power Valve" Extinguishers can be quickly spotted by employees and maintenance men. All-brass valve, trigger, and trigger guard afford durability for heavy-duty, outside use. Suitable for railroads, oil fields, buses, trucks, airports, chemical plants.

For details, use Key # FP-4 on Inquiry Card on page 73.

FIRE EQUIPMENT CABINET

A COMPLETE FIRE protection package consisting of a wall cabinet with satin-finish extruded aluminum door and trim has been introduced by the Elkhart Brass Manufacturing Company, Inc. for stores, factories, hospitals, schools, and other public buildings. Unique feature of the new hose cabinet door and trim is that it may be installed after plastering so that they may be kept free from damage during construction.

The units, of light, strong construction, are available in a variety of sizes to meet local requirements. The door rails are assembled through a patented mechanical process, and are of tubular construction. The hose cabinet door, factory glazed with high quality glass and cushioned in concealed rubber channels, reveals the entire content of the cabinet including a 1½-inch angle valve with 75 feet of 1½-inch unlined linen hose mounted on a one-piece rack, and equipped with Elkhart plate No. 205 Underwriters' approved fog nozzle, plus a 2½-inch valve to be used by local fire fighters, a 2½-gallon 500-pound tested brass drawn shell fire extinguisher, fireman's axe and spanner wrench. Cabinets may be made also to hold a hand extinguisher only. Standard sizes come in five widths and three heights. The cabinet door has a cam type locking device. Doors and trim are constructed with mechanical joinery at the corners and the doors are aligned by means of a guide pin arrangement.

For details, use Key # FP-5 on Inquiry Card on page 73.

CB AND VL EXTINGUISHER

THE ADDITION TO their line of a new single cylinder pressure type vaporizing liquid fire extinguisher has been announced by Pyrene Mfg. Co. Said to be effective for all classes of incipient fires, particularly those occurring in electrical apparatus and flammable liquids, this extinguisher, which is available in both 1 and 1½-quart sizes, features a unique on-and-off thumb lever mechanism that gives the operator instant finger tip control of discharge. As a safety measure, a special locking device has been incorporated in the carrying handle to prevent accidental discharge while in a stowed position. Air pressure gauge permits quick visual inspection. Service air line valve facilitates fast on-the-spot recharging at most locations.

The extinguisher is constructed of brass throughout and may be furnished with either a standard wall or clamping type vehicle bracket. Liquid is VL (carbon tetrachloride) or CB (chlorobromomethane). Fully approved by Underwriters' Laboratories and Factory Mutuals.

For details, use Key # FP-6 on Inquiry Card on page 73.

FOG NOZZLE

A NEW FOG nozzle has been developed especially for aiding plant personnel and fire departments in fighting industrial fires. Said to be suitable for use with all industrial hose and hose racks, this fog nozzle opens from a shut-off position immediately to a 160° full fog position. This vapor prevents water damage to plant equipment and inventory caused by a heavy solid stream of water; precludes the spreading of liquid fire and disperses poisonous

products side-by-side

Push the buttons, pull the handles, get the heft. Make on-the-spot comparisons of the plant maintenance and engineering products, services, supplies and machines you need to keep your plant running at top speed.

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And there's only one place where you'll find them all displayed – over 400 exhibits – at the Plant Maintenance and Engineering Show. In all the other days of the year, you can't begin to compare so many competitive products – products that can save your plant money and time, and step up efficiency.

Schedule time, too, for the Plant Maintenance & Engineering Conference. It will be attended by and led by the top men in their fields. Send the coupon today for Show tickets, and conference information.

6th National Plant Maintenance & Engineering Show & Conference

International Amphitheatre, Chicago
January 24-27, 1955

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Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

(For details, use Key # Z-24 on card on page 73)

fumes, gases and smoke as well as flammable vapor air mixtures. A wide, intense curtain of water also smothers fire quickly, cooling it below the burning point, and forming a protective shield that guards the fire fighter against the heat and fire. It also stops the fire from flashing back over previously extinguished areas.

A product of The Akron Brass Mfg. Company, the Akron Industrial Fog Nozzle has the added advantage of a double shut-off since the water stream can be stopped by turning the nozzle to the extreme right or the extreme left. Made for 1½" hose.

For details, use Key # FP-7 on Inquiry Card on page 73.

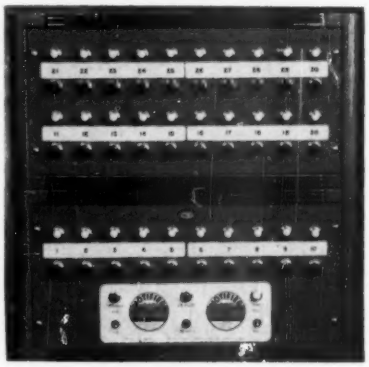
AUTOMATIC GROUND CONTROL

AN AUTOMATIC PROCESS control instrument, safe to install in hazardous areas, has been developed by The Hewson Co., Inc. It is used to safeguard the processing and handling of flammable materials from the accumulation of electrical charges that might cause a fire or explosion. Gasoline and chemical truck, tank car, and tanker loading and unloading operations, JP-4 fuel handling and similar hazardous operations are indicated applications for this equipment. These units provide a vital 24-hour protection against fires and explosions caused by the build-up of electrical potentials on inadequately grounded equipment. Processing operations are automatically halted until satisfactory ground connections are made.

The Safe-T-Ohm Model G-5 is said to be entirely safe for controlling the loading and processing of gasoline and other hazardous materials. Operation of loading platforms, pumps and other equipment is contingent upon proper bonding of all equipment to ground. Only light beams are used to connect the power circuits to the loading equipment and there is no possibility of a leak from the power circuits charging any part of the equipment involved in the loading operation.

When resistance to ground is in excess of the maximum allowable resistance of 5 ohms, the device prevents loading or processing of hazardous materials from starting or continuing. This automatic process and ground control, therefore, greatly reduces the possibility of fires and explosions caused by static charges or stray electrical currents in hazardous operations.

For details, use Key # FP-8 on Inquiry Card on page 73.



SUPERVISED FIRE PANEL

A REMOTE CONTROL and fire station receiving panel listed by Underwriters' Laboratories with control units and with or without supplementary annunciator units has been developed by Notifier Mfg. Co. It is said to be suitable for use with their listed thermostats and bells to form a supervised fire alarm system. This supervised system has also passed all tests for Factory Mutual Laboratories listing.

The Notifier Fire Station Receiving Panel is designed so that fire detection and associated wiring is completely supervised against shorts, single or double breaks, and power failure. This feature makes it possible to tie in sprinkler supervisory equipment, and provide complete supervision of a sprinkler system's valves and water flow.

When a fire signal is initiated on the protected premises, the signal is flashed to the Auxiliary Control panel. At the same time the Auxiliary Control Panel transmits the

signal to the Fire Station, the alarm bell rings, and the lights flash indicating which building has a fire condition. Reporting is entirely automatic.

For details, use Key # FP-9 on Inquiry Card on page 73.

PRESSURIZED EXTINGUISHER

A NEW 1 QUART Pressurized "Quick-Action" fire extinguisher has been introduced by The General Pacific Corp. and The General Detroit Corp. The General "Quick-Aid" Pressurized Fire Guard Model VL-150 has been approved by the Underwriters' Laboratories, Inc.

This vaporizing liquid extinguisher is especially recommended for use on fires of gasoline, oil, and other flammable liquids, and is particularly adaptable for fires in electrical panels, motors, and ignition

systems because the extinguisher charge is a non-conductor of electricity.

Special one-hand operation and "power-discharge" is provided by stored air pressure. The extinguisher is designed so that the discharge nozzle fits all standard air chucks and a pressure gauge is provided for visual inspection of the extinguisher's charge at all times. Fire fighting effectiveness can be obtained from almost every angle with this new extinguisher, which is available in 1 Qt. and 1½ Qt. sizes.

For details, use Key # FP-10 on Inquiry Card on page 73.

Second Quarter Injury Rates

CONTINUING ITS downward trend, the all-manufacturing injury frequency rate dropped to an average level of 11.1 disabling injuries per million employee-hours worked in the second quarter of 1954. This was the third successive quarter in which a new low in the rate has been reached, the U. S. Department of Labor's Bureau of Labor Statistics has announced.

Preliminary reports indicate that the second quarter rate was 4 percent lower than the average for the first quarter of 1954 and 21 percent below the average of 14.0 for the second quarter of 1953. The cumulative average for the first six months of 1954 was 17 percent below that for the corresponding period of 1953.

The average for each month in 1954 has set a new record low for that particular month. The rate of 10.9 for May set an all-time low for any month, the rate for June rising slightly to 11.2. These preliminary indications all point to a new record of safety in industry for 1954.

This improvement in safety was shared by the majority of the industries covered by the survey. Only 9 of the 132 manufacturing classifications had significant rate increases between the first six months of 1953 and 1954. Relatively stable rates were recorded for 36 industries, but 87 (or almost two-thirds) had decreases of one full frequency-rate point or more. Of this latter group, 15 had decreases of 5 points or more.

The most outstanding improvement was in the small boat-building industry, which had a consistent record of declining rates last year and into 1954. The rate for this industry dropped from 40.6 in the first 6 months of 1953 to 27.9 in the first half of 1954. Likewise, the millwork and structural wood products industry recorded a steady improvement in its safety record, with a drop from 27.5 injuries per million manhours in the first half of 1953 to 19.7 in the first 6 months of 1954. The

(Continued on page 67)

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Just walk up and down the aisles of this great show and you'll find practically everything you need to keep your plant running at top efficiency—ideas that will stimulate your thinking, products that can save your plant money and time.

Attend the conference too. There you'll meet the top men in all phases of plant maintenance and engineering—listen to and talk with experts who will help you do a better job in your plant.

Plan now to *GO!* Send the coupon for Show tickets for the most profitable four days you'll ever spend *on the job.*

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Address _____
City _____ Zone ____ State _____

(For details, use Key # Z-24 on card on page 73)

Flash Points of Flammable Liquids

THE FLASH POINTS of more than 2,400 flammable liquid trade name products have been compiled and published by the National Fire Protection Association, Boston, in an 82-page informational booklet, "Flammable Liquid Trade Name Index, NFPA No. 325A."

Since the flash point of a liquid is a good indication of its relative flammability, the new listing is aimed at assisting in the safe storage and use of flammable liquids. Previously, the NFPA has published tabulations of fire hazard properties of flammable liquids identified only by their chemical names.

In addition to the flash point, the new index identifies each product as to its principal uses, manufacturer, and the NFPA's source of information about it. The index may be obtained from the NFPA Publications Department, 60 Batterymarch St., Boston 10, Mass. Per copy price is $1.25 with discounts for quantity purchases.

Medical Programs

A COMPREHENSIVE guide to the planning and functioning of industrial medical programs, based on nearly 40 years of company experience in the field, has been prepared by 20 members of the Du Pont Company's Medical Division and related departments.

The book, "Modern Occupational Medicine," is published by Lea & Febiger and is edited by Dr. Allan J. Fleming, assistant medical director, and Dr. C. Anthony D'Alonzo, special assistant in the Medical Division. Dr. John A. Zapp, director of the company's Haskell Laboratory for Toxicology and Industrial Medicine, is associate editor.

While the work was originally planned as a guide for Du Pont's own physicians, the authors have presented information that will be useful to physicians, executives, safety engineers, and chemists throughout industry. The book not only provides in a single volume a complete review of all phases of occupational medicine, but presents substantial findings based on original work in specific fields.

Adequate health care is the central theme of the book. The first chapters, on organization, present data that will permit plant managers and other industrial executives to evaluate the adequacy and efficiency of their medical services, and contain specific information on administration, functions, location, personnel, layout, equipment, medical history, physical examinations, and medical records.

There are five chapters on industrial preventive medicine, discussing such subjects as research, toxicological methods, plant surveys, protective clothing, functions of the industrial hygiene laboratory, and immunizations in industry.

A section on the physical environment and occupational health takes up the effects of temperature, humidity, and air movement; industrial noise, radiological hazards, and fatigue. Another section, on services allied to occupational medicine, discusses medicolegal aspects of occupational medicine, the rehabilitation of the alcoholic in industry, how to cope with "occupational back," medical guidance of in-plant feeding, the nurse in industry, safety, and sanitation. Other sections are devoted to psychiatry, toxicology, and problems of acute poisoning.

The illustrated 414-page book is available for $10 from Lea & Febiger, Washington Square, Philadelphia 6, Pa.

Wood Products Reports

SEVERAL NEW publications have been recently issued by the U. S. Forest Products Laboratory and are available without cost on request to the Director. They are:

"Inside Wood—A Short Trip Into the Interior for the Layman," Rept. No. 1995, is written in a simple, easy to read style. It gives a readily understandable description of the physical and chemical structure of wood.

"The Role of Inspection in Wood Ladder Safety," Rept. No. 1994, contains a list of natural characteristics of wood that should be checked to insure a strong, safe, and durable ladder. Background information is presented so that strength-giving characteristics can be identified.

"Fire Research and Results at the Forest Products Laboratory," Rept. No. 1999, is a brief survey of research on fire-test methods and fire-retardant treatments conducted at the Laboratory. Important results are summarized.

"Electric Moisture Meters for Wood," Rept. No. 1660 (revised), describes various types of electric meters used to give instantaneous determinations of the amount of moisture in wood. Proper use and maintenance are discussed.

Copies of any of these reports may be obtained free of charge as long as the available supply lasts by writing to the Director, U. S. Forest Products Laboratory, Madison 5, Wis.

SAFETY ACHIEVEMENTS

AWARD OF THE President's Plaque to the division of Allen B. Du Mont Laboratories, Inc., which had the highest safety record during the past year was made to Herbert E. Taylor, Jr., Communication Products Division manager, by Dr. Allen B. Du Mont, president of the company. The plaque is awarded annually to that division with the highest safety record based on the per capita cost per accident.

• • •

A PLAQUE FOR first place in the heavy fabricating division of the National Safety Council was presented to the employees of the Paxton & Vierling Steel Co., Omaha steel fabricating and supply firm. The presentation was made by Glenn Cavanaugh, president of the Omaha Safety Council, to E. F. Owen, executive vice-president of PVS, who, in turn, presented the plaque to a committee of plant supervisors.

Mr. Cavanaugh praised the company's workers for compiling an unmatched national industrial safety record of no lost-time accidents from July, 1953, through July, 1954.

• • •

ELEVEN TRADE associations were presented with the National Safety Council's award during the sessions of the 42nd National Safety Congress in Chicago. The associations who were cited for their outstanding work in promoting safety in small business are: Associated General Contractors of America, British Columbia Loggers Association, British Columbia Lumber Manufacturers Association, Can Manufacturers Institute, Folding Paper Box Association of America, Industrial Accident Prevention Associations (Canada), Manufacturing Chemists' Association, New York Shipping Association, Portland Cement Association, Society of Exploration Geophysicists, Steel Founders' Society of America.

The award gives recognition to associations for the general excellence of their safety services and for their contribution to the reduction of occupational injuries in their industries. In making the awards the Council's technical committee and committee of judges took into consideration accident prevention activities such as publicity, safety conferences, contests and publication of technical material.

• • •

A REMARKABLE safety record of five million manhours without a lost-time injury has been made by the Instrument Division of Daystrom, Inc.

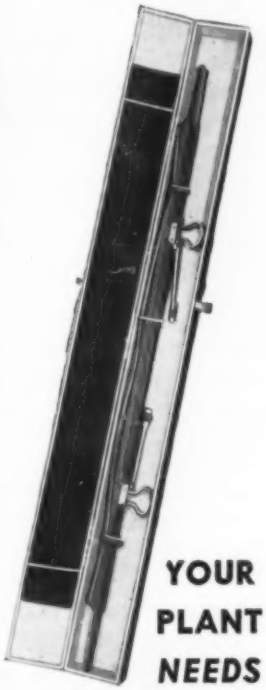
• • •

FOR ACHIEVING a safety record of ten years without a lost-time accident, the Callery, Pa., plant of Mine Safety Appliances Co., was recently presented with the National Safety Council's Award of Merit. During the period, employees at the plant worked two million manhours without a disabling injury.

JUNKIN STRETCHERS

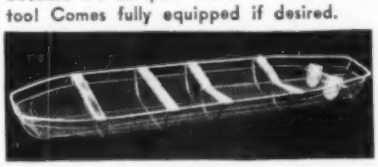
STRETCHER CASE

$23.80 FOB Louisville



YOUR PLANT *NEEDS* STRETCHERS

The Junkin Stretcher Case affords a convenient and compact cabinet for storing the army type stretcher, blankets and first aid equipment. It provides a definite location for the equipment and protects it against the deteriorating effects of dirt and grime. And because it's compact it's a SPACE SAVER tool Comes fully equipped if desired.



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Construction permits patient to be carried horizontally or lifted vertically without danger from inaccessible locations. Canvas straps and footrests keep patient rigid and comfortable. For complete information write for free descriptive literature.

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(Use Key # Z-25 on Inquiry Card on page 73)

Another Good Idea, A Companywide . . .

SAFETY WORKSHOP

MAKE THE JOB SO SAFE that you would gladly put your own son on it.

Factory employees are six times safer at work than at home and American industry could do an even better job in making the country a safer place by enlarging its responsibilities to include off-the-job safety training. Teach employees to take the safety attitudes they have learned in the factory with them when they leave their jobs each day.

With these and other themes before them, General Electric safety engineers and supervisors have been discussing new and improved safety practices in a series of regional workshops which started last month in New York.

Louis E. Newman, Manager-Health and Safety Services, for the General Electric Company opened the workshops by reminding his audience that he had two grown sons and that he liked to tour company plants checking each job against the standard, "Would I be happy to put my own son on it?"

"Every job should meet that standard," he said. He also made these points: a safety program concerned only with preventing industrial accidents is woefully incomplete; it should also educate employees to attitudes of off-the-job safety; management must be taught that accidents are more costly—in expensive reactions that may at first be hidden—than is frequently realized; it is up to safety engineers and supervisors to so conduct their work that their profession is continually upgraded in management's eyes.

Workshop programs, arranged by C. R. DeReamer, Manager-Safety Services, covered a wide range of material. Subjects included: "Establishing the Line Supervisor's Responsibility for Safety;" "Properties and Safe Use of Toxic Materials;" "Electrical Standards and Procedures for Protection of Personnel and Equipment;" "A Training School for Industrial Truck Drivers;" and "Controlling the Hazards of Radioactive Materials."

Mr. DeReamer himself discussed supervisory safety training in the company, measuring and evaluating results, and wound up the sessions with a talk on "New Milestones for Safety Engineers."

"In organizing for safety it is essential to make accident prevention the foreman's job," he said, "because he is closest to the person most likely to get hurt."

In a talk on establishing the line supervisor's responsibility, W. H. Prout, safety supervisor, stressed that the foreman must first be trained in safe practices and in the realization that he is responsible for the safety of his group. Second, he must be activated by management to assume his safety responsibility by being held accountable for the safety of his group.

"The foreman has for some time been held accountable for production and for expense control," Mr. Prout said. "He must also be held accountable for the unsafe practices of his group."

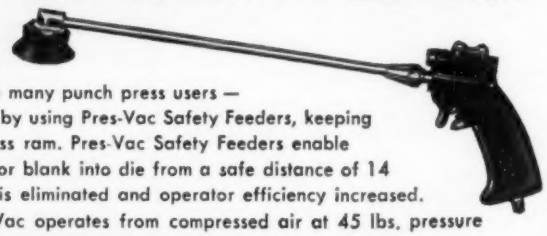
L. J. Burger, himself a manufacturing manager in the company, warned that "unless manufacturing management is motivated to consider the safety program in the same way as it does production, manufacturing losses, cost reduction, etc., it will not attain the necessary stature to be as successful as it should be. The same interest, questions, discussions and appraisals must take place at each level in the daily operation of safety as occurs with other portions of the manufacturing program."

One of the points in the company's philosophy is a concern for its local community relations in the

Western Stove Works

Saves Fingers with

Pres-Vac SAFETY FEEDERS



Western Stove Works, well-known California manufacturer — like so many punch press users — saves workers' fingers by using Pres-Vac Safety Feeders, keeping fingers away from press ram. Pres-Vac Safety Feeders enable operator to feed part or blank into die from a safe distance of 14 inches. Fear of injury is eliminated and operator efficiency increased.

Also AIR BLAST VALVES

Pres-Vac operates from compressed air at 45 lbs. pressure which passes through a venturi to create a vacuum.

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Speed with Safety

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(Use Key # Z-26 on Inquiry Card on page 73)

cities where its plants are located. The company's safety program is an integral part of these community relations.

As John McCarty, Manager-Program Services, Plant Community Relations Department, put it in one of the workshop talks: "Our aim is to act right and then to be known among employees and among the other members of the plant community—for doing what is right. About 90 percent of the job consists in doing what is right, and you are not doing what is right unless you have a good safety program. And a good safety program involves off-the-job as well as on-the-job safety attitudes."

A highlight of the New York workshop was the presentation of the company's Safety Achievement Awards to the Hanford atomic products operation for working 9,437,211 man-hours without a lost-time accident, and to the Telechron department for contributions in establishing a safety training program for supervisors now adapted for use throughout the company.

J. A. Martin, Industrial Hygiene Supervisor at the company's Aircraft Nuclear Propulsion department discussed "Controlling the Hazards of Radioactive Materials."

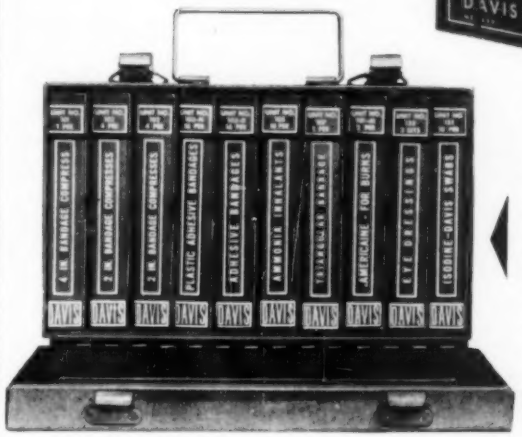
He listed six things to be remembered on this subject:

1. You don't have to be a genius to cope with radiological hazards.
2. Prepare yourself or someone else to handle radiation safely.
3. Do a lot of "on-paper planning" before you start an isotope program.
4. Have enough instruments for adequate monitoring.
5. Don't lose sight of good horse-sense among all the technical problems.
6. Take advantage of your company consulting services.
7. Get the reference materials and read them.

These important safety themes, discussed in the New York meeting, will be further spread among company personnel in regional workshops scheduled for Syracuse and Chicago.

NOW! REDESIGNED DAVIS D-CARTONS IN SEALED, SANITARY WRAP, WITH EASY-TO-OPEN RED PULL TAB!

Just pull the red tab to unwrap.



The continuous red line across the face of the D-Carton shows that none of the cartons has been opened.

A break in the red line, as at the third carton in the illustration, signals that they have been opened and should be checked for replacement before the contents have been used up.

BAND-AID
Trade Mark

Plastic Strips with "Super-Stick" now available in Davis D-Cartons and kits when desired with these advantages: (1) a new cushion pad of Red Cross cotton covered with surgical gauze; (2) all four edges of gauze are folded under, free from loose threads, and (3) handy new tab lift, shown at right. Fingers never touch pad.

SAFETY DAVIS DIVISION

DAVIS EMERGENCY EQUIPMENT CO., INC.

64 Halleck St., Newark 4, N. J.

(Use Key # Z-27 on Inquiry Card on page 73)

5 Musts For The Safety Engineer

1. Transfer safety knowledge to the line supervisor so it can be used where the action takes place.

2. Help pinpoint unsafe practices, unsafe equipment and unsafe materials for the line supervisor and make recommendations for elimination or control.

3. Teach line supervisors to include safety training in job training, enforce safety rules and promote employee participation in the safety program.

4. Teach foremen to find the **causes** *of accidents.*

5. Evaluate the safety performance at all levels of management.

Power Show Reacts to New Era

WITH A SALUTE to the atomic age, the 21st National Exposition of Power and Mechanical Engineering will present a great variety of new developments, from the first marketable reactor to the latest in "brains" for the robotized manufacturing plant. The Exposition will be held at Philadelphia's Commercial Museum, and will be under the auspices of The American Society of Mechanical Engineers. The dates, December 2 to 7, inclusive excepting Sunday, are both concurrent and following the annual New York meeting of the Society.

Research Reactors Highlighted

One of the headline exhibits at the Power Show will be a unitized design for research reactors. Another feature will be the numerous exhibits revealing advances in automation, ranging from the automatic regulation of a single mechanical operation to the "masterminding" of an entire power generating station.

An exhibitor will demonstrate how a power plant supervisor, from a convenient location can observe combustion, smoke, and water level in the boiler drums, or see pictures of gage dials or recording instruments, on a remotely located TV set. By using the split-screen technique, several such observations may be viewed simultaneously on a single monitor. Also, by using auxiliary monitors, the same observations may be registered simultaneously at several points. Noise measuring instruments used in production testing, to test the effectiveness of insulation in buildings, to study noise effects on personnel in plants and determine acceptable tolerance levels will also be shown. Many other exhibits including steam equipment, production and safety controls, power plant auxiliaries, etc. will demonstrate the latest developments in the power industry.

A manufacturer of production control and safety control instruments will exhibit high voltage DC insulation test sets designed to indicate definitely whether any given piece of apparatus may be continued under full load without risk of breakdown due to defective insulation, yet without impairing the insulation by the effects of the test itself. High speed static control systems to neutralize the charge on moving materials such as textiles, printing papers, and plastic sheets, by means of ionic bombardment will be on display. The same exhibitor's alarm systems are used to protect areas where fires and explosions may be caused by static; sounding a buzzer and flashing a light when a dangerous condition is automatically detected. In a different area of explosive hazards, another exhibitor will offer liquid dust control systems. In one such, a compound is applied at various points throughout coal handling operations to allay dust, and thus remove the danger of explosive fires.

Special Events, Also

In association with the Power Show there will be a number of special events. The Plant Engineers Club of Greater Philadelphia will hold a dinner meeting at the exposition on Thursday, December 2. The Instrument Society of America will hold an all-day symposium on Friday, December 3, at which technical papers will be presented discussing pertinent topics in that field. On Friday, the ASME will stage an inspection trip to the Show via the Fairless Works of United States Steel. Also held during the show will be a joint dinner and meeting of the Philadelphia chapters of the ASME and the American Society of Civil Engineers.

The Power Show, as in previous years, will be held under the management of the International Exposition Company, with headquarters at 480 Lexington Avenue, New York 17, N. Y. E. K. Stevens, president, is manager of the Exposition.

Human Relations Topic at Maintenance Conference

HUMAN RELATIONS aspects of factory upkeep will highlight the Plant Maintenance & Engineering Conference at Chicago in January. Emphasis will be on such subjects as getting along with unions, worker motivation and morale, communicating information, and selection and indoctrination of personnel. Fifty-three executives from the nation's leading industries will lead discussions at the meeting, held during the first three days of the four-day Plant Maintenance & Engineering Show, Jan. 24–27. Clapp & Poliak, Inc., New York exposition management firm, produces both events.

Two of the three general sessions, attended by the entire group, will consider human relations problems. Personnel topics in the smaller sessions include work measurement, training and organization of the maintenance force.

The show, with 400 companies displaying more than 10,000 items of equipment, will be among the largest industrial expositions of 1955. It will be the first to occupy the new addition to the International Amphitheatre and is expected to attract 20,000 engineers and production executives.

Individual Industries Get Attention

Five industries will receive individual attention at special sessions. These include chemical, food, paper, steel and textiles. Specialized aspects of maintenance to be studied include buildings, sanitation, electronic controls, electrical distribution, lighting, corrosion, lubrication, office equipment, safety, protection, fire prevention, power plants, materials handling, maintenance manuals and similar subjects.

Advance registration cards for both show and conference may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

By E. R. REEVES
Director, Accident Prevention Division
National Automobile Transporter's Association
Detroit, Michigan

What Do You Want In Your Driver?

ASKING THE personnel officer in many truck fleets, "What Do You Want In Your Driver?" would be like asking, "How long is a piece of string?" He simply wouldn't know. I am not going to try to give a precise answer to the question myself, but I am going to try to stimulate thinking on this important subject.

Who is the individual called the driver in motor transport fleets? Offhand many would say he is the fellow that drives the equipment. In many fleets in this country today, the driver receives only that much consideration and thought. His job is more extensive than that, however. It is obvious that his prime qualification is to be able to drive safely; but, depending on the operation, his duties and qualifications must be much greater.

The individual who is a good driver in one type of operation may not have the qualifications necessary in another. Let's name a few of the various types of operators in the motor transport field. There are automobile transporters, driver-salesmen, petroleum haulers and tank carriers, freight carriers, steel haulers, oil field equipment transporters, meat and produce transporters, heavy haulers, bus drivers, taxicab drivers, utility vehicle drivers, city and state vehicle drivers, concrete mixer drivers, package delivery men, farm product transporters, and household goods movers, to name a few.

A "Job Analysis"

It is quite possible that a driver who previously had been an outstanding driver-salesman would not make a good driver in the automobile transport industry or a good bus driver. In determining standards of selection, it is necessary first to make a careful study of what the job entails and what qualifications the driver should possess in order to perform the job satisfactorily. There is a necessity for having a "Job Analysis" for any particular type of operation.

Failure to have a "Job Analysis" for hiring drivers puts hiring procedure on a hit or miss basis. Remember, the fleet safety program must begin at the employment office. Have you ever taken the time to sit down and analyze the requirements for a driver in your particular fleet and with the results of the analysis taken the time to write what is known as a "Job Description"? If not, then it would be rather difficult to answer the question "What Do You Want In Your Driver?" It is quite a chore to go shopping if you don't know what you want to buy.

By the same token it is quite a chore to hire drivers for a fleet who will operate equipment safely and on a humanitarian and economic basis without a "Job Description." Of what value is an interview if you don't have a job description as a guide? The job description will enable you to decide what qualifications an applicant should possess to be able to perform a particular job of driving, satisfactorily. The application form used in a fleet should be based on the job description in order to help determine whether an applicant has the neces-

sary basic qualifications for a driver in your fleet.

Most fleets today take into consideration specifications necessary for the equipment to handle their operation. Much time and money is spent in working out and developing these specifications which have to do with size, weight, tires, horsepower, specialized equipment, axle ratios, transmissions, body design and many other items.

Despite all the time and money spent by these fleets in the selection, engineering and design of equipment, many of them pay little or no attention to the job analysis or specification of the driver that is to be assigned to drive this equipment. It has been said that the best safety device in the motor transport industry is the human being called the driver. Statistics reveal that better than 90 percent of all motor vehicle accidents are caused by human failure. The driver is directly responsible for good or bad accident experience. Insurance rates are based on the accident experience or loss ratio of a fleet. Insurance costs are a major item of expense in any fleet.

Many personnel men by knowing "What they want in a driver" for their fleet and by having the "Job Description" in "black and white" as a guide have been very successful in selecting the right drivers to drive their equipment. Results included insurance rate reductions, better customer relations and improved public relations not only for their fleet but also for the industry.

For Safer Driver Hiring TRY THESE QUESTIONS!

1. What does your driver do?
2. How does he do it?
3. Why does he do it?
4. Are you interested in his moral character, mental ability, motor ability, health, motivation, stability, maturity, sociability, manner—appearance? These items should constitute an inventory of the basic qualifications for a prospective driver in any fleet.
5. Do you have a maximum and minimum age requirement? Is it required?
6. Is a size and stature requirement necessary in your fleet?
7. What physical qualifications are necessary?
8. Do you have an educational requirement or is it necessary?
9. How much previous experience or training does a driver need? This of course depends on how much training you are going to give him.
10. Are you interested in his previous accident or driving record?
11. Are you interested in the applicant's past personal history?
12. Do you always consider the fact that a driver had a good record with another fleet as adequate to fit the needs in your fleet?
13. What do you expect of a driver or do you know?
14. Do you actually know what your requirements are? Does top management know?
15. Do you have labor problems in connection with selecting a driver for your fleet? If so, what are they?
16. What is required of a driver in your fleet other than being able to drive safely?

It is only fair to say at this point, that, regardless of how good our selection methods may be, we will never be perfect.

Haste Makes Waste

Many fleets have an excellent driver selection program and as long as everything is normal, it is adhered to. However, the very moment that traffic begins to back up, the order comes from top management to get more drivers immediately. Then the excellent selection program goes out the window and the bars are let down. The outcome is that the personnel department hires many drivers that do not meet their job description and are actually "Accidents" going some place to happen. Accident ratios go up and profits go down.

In many fleets driver personnel is built up in emergencies by temporary or part-time help with little or no regard for the job description that may have been set up, the prime interest being to move traffic. In such instances also, accident ratios go up and profits down. How many accidents in your fleet during the past year can be charged to drivers hired on a "temporary or part time" basis? Safe driving ability should never be subordinated, otherwise, accident losses can completely offset any advantages gained through a driver's other special abilities.

The drivers should be the prime consideration in any fleet—they are the foundation of the motor transport industry and its life blood, so to speak. Upon them depends a good or bad record—accident-wise, customerwise and public relationwise. In the past too much emphasis has been placed on the movement of a great volume of traffic regardless of how it is moved with too little emphasis on safe operation. Where is the greater profit? Profit cannot be termed entirely in dollars and cents values. Customer relations and public relations creep into the picture. Many bills have gone into the hoppers of the various state legislatures as a result of poor operation or bad behavior on the part of drivers observed somewhere on the streets and highways of this

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DAV-SON FLASHING SAFETY DIRECTOR

With Amazing Changeable Letter Slide Out Panel

Bright traffic light red, green spots flash "SAFETY FIRST." Color, motion, light bring eyes directly to message. Only DAV-SON has changeable letter design with removable panel for quick changes, peak attention. 98 red 3½" and 250 black 1⅞" acetate letters in compartment box incl. Size 18½x29x6. Complete with lamp and U.L. Cord. **$39.75**

Insist on genuine self-sealing cork back bulletin boards—hardwood frame. Sizes 12x18 and larger. With or without glass doors. **$4.15** up. Also with metal frames for inside or outside use.

A Dav-Son board for every purpose. Over 100 different sizes and styles to choose from. *Dealer Inquiries Invited.*

If your dealer doesn't have the Dav-Son board you need write direct.

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(Use Key # Z-28 on Inquiry Card on page 73)

country. The public generally has a tendency to remember the bad behavior of a few drivers rather than the good behavior of the majority. It follows, in view of the important role of the driver in all respects in the motor transport industry, that it is high time to take inventory of the selection methods now used in various fleets. Let's find out if they are adequate for the needs and make adjustments and additions where necessary.

From an address delivered at the 41st National Safety Congress.

Picture by courtesy of Three Lions.

Enlist Public Opinion for Traffic Safety

To open a traffic enforcement drive without adequate, advance warning to the general public is to doom that drive to failure, warned Edward R. Klamm, an insurance company accident prevention director, at the 8th Annual Traffic Court Conference meeting at Northwestern University, conducted by the American Bar Association and Northwestern's Traffic Institute.

"Given sufficient advance warning and explanation of the reasons for a 'get tough' law enforcement drive by the police and courts, the public is likely to support it and cooperate with law officials," Klamm said, "But a sudden, unanticipated enforcement drive will meet with resentment, a feeling by the public that 'something is being put over on them.'"

Local Safety Organizations

One of the best methods of obtaining public support of enforcement measures is through cooperation with local community safety organizations, according to Klamm. He cautioned that public safety organizations need guidance by the courts as to what measures to support. He said that, in some instances, public safety groups have actually interfered with the establishment of effective projects through lack of such guidance.

HAVE YOU TRIED VYTHENE*?

Many of America's leading industries **have**—and find this versatile, non-inflammable, **low-toxicity** solvent is the solution to most if not all of their cold solvent cleaning problems.

VYTHENE*—

- Dissolves oils, greases, waxes—yet is comparatively inert to most electrical insulating varnishes.
- Eliminates fire hazards, greatly lowering insurance rates in many plants.
- Reduces toxic hazard (1/20th as toxic as carbon tetrachloride.)
- Is stable to all metals including aluminum, brass, and copper. (Not just "inhibited," VYTHENE is truly stabilized.)
- Is fast evaporating, pleasant in odor, and inoffensive to workers.
- Can be distilled and repeatedly re-distilled in ordinary pot type stills, thus effecting savings as high as 50% to 60%.

If you haven't tried VYTHENE*, drop us a line on your company letterhead—and we shall be glad to send you a sample and complete technical and toxicological information.

* Trade Mark for stabilized 1, 1, 1-Trichloroethane on which TECT, INC. has a U.S. Patent pending.

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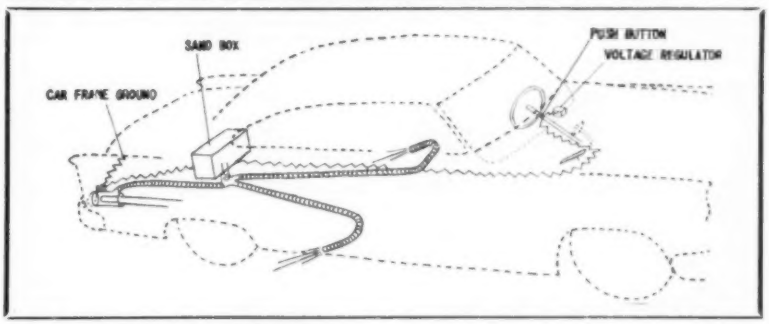
Producers of more than 30 different Safety Solvents, the most complete line in America.

(Use Key # Z-29 on Inquiry Card on page 73)



POWER ROAD SANDER

A new exhaust power-spread road sander for trucks, busses and passenger cars is announced by Automotive Sandtrax, Inc. The device, which shoots a spray of sand under the rear wheels of the vehicle to provide traction on slippery roads, is called Sandtrax.

Powered by the engine exhaust and controlled with a push button and accelerator pedal, it is easily installed, according to the manufacturer and can be transferred from one car to another.

The device comprises a sand hopper placed in the front of the trunk compartment, a control valve that fits over the end of the exhaust pipe and connects electrically to a push button on the steering column, and two flexible metal spray arms that fasten under the chassis. It is actuated by a simultaneous light pressure on the push button on the steering column and the accelerator.

Road tested over several hundred thousand miles under extreme weather conditions, the manufacturer reports the sander has proved itself in every condition met. For example, it is claimed that it cannot freeze up and become inoperable.

For full details use key number TS-9 on free inquiry card on page 73.

The opening of a new branch at 36561 Plymouth Road, (corner Raleigh) is announced by The Boyer-Campbell Company, to serve northwest Detroit and the suburban areas within a radius of Ann Arbor with a complete line of industrial and safety equipment and supplies.

Two York Corporation executives, Ray K. Serfass, General Sales Manager, and J. M. L. Joslin, Manager, Industrial Relations, have been named Vice Presidents of the York, Pa. air conditioning and refrigeration firm, according to an announcement by Stewart E. Lauer, President.

Combining the resources and experience of the Hammond Iron Works of Warren, Pa., Kittell Muffler and Engineering Co. and Lacy Mfg. Co., of Los Angeles, the Kittell-Hammond Company has been formed to design and construct noise reduction facilities for installation east of the Mississippi River. Main office and headquarters are located in Warren, Pa. An affiliated company, the Kittell-Lacy Company of Los Angeles performs the same services for aeronautical and general industrial application west of the Mississippi River.

Willard H. Baumann has been appointed to the new post of Industrial Hygiene Engineer at Jones & Laughlin Steel Corporation, Dr. D. J. Lauer, Medical Director, announced recently. Mr. Baumann will carry on activities designed to maintain high environmental, health, and sanitation standards for employees in all J&L operations.

Lixoil Laboratories, of Boston, Mass., has changed its name to Script-Oil Laboratories. Henceforth, the company's oil-dissolving hand cleanser will be known as Script-Oil.

Appointment of Thomas M. Riley as advertising manager for Pittsburgh Plate Glass Company's paint and brush division was announced by M. J. Batenburg, director of information services for the firm. Prior to his current appointment, Mr. Riley had served as assistant advertising manager for the paint and brush division during the past year. As advertising manager for that division, he succeeds Mr. Batenburg.

Tom J. Cain, Jr., director of safety, The B. F. Goodrich Company, Akron, was named general chairman of the rubber section of the National Safety Council at the 42nd National Safety Congress in Chicago. Cain succeeds R. W. Fickes, Goodyear Tire & Rubber Company, to the post of directing safety council rubber section affairs on a national basis for the year 1955.

The Combustion Control Corp., of Boston, Mass., manufacturers of flame failure safeguards for oil and gas burners, has changed its corporate name to Combustion Control Division, Electronics Corporation of America.

S. M. MacCutcheon, safety director, The Dow Chemical Company of Midland, Michigan, has been elected chairman of the General Safety Committee of the Manufacturing Chemists' Association, Inc. Mr. MacCutcheon, former vice chairman, succeeds R. H. Albisser of Merck & Company, Inc. G. L. Gorbell, safety director, Monsanto Chemical Company, St. Louis, Missouri, was elected vice chairman of the committee.

Globe Industries, Inc., Dayton, Ohio has announced the appointment of Mr. John B. Dunne as production and sales manager of the company's medical and hospital division. Formerly professional services representative of the Mine Safety Appliances Company, Mr. Dunne has been active in the development and sales of resuscitation and other oxygen equipment.

Pyrene Manufacturing Company and its wholly owned affiliate, C-O-Two Fire Equipment Company, two leading manufacturers of fire protection equipment, are furthering their unification program and will continue with their main operations in Newark, New Jersey, according to an announcement by S. R. Baker, Chairman of the Board.

In the east, manufacturing operations at the Belmont Avenue plant in Newark, New Jersey will be discontinued. However, full manufacturing operations will continue at the U. S. Highway 1 plant in Newark, New Jersey, as well as at their newly enlarged midwest and far west plants in Chicago, Illinois and Los Angeles, California. In addition to this, there has been no change with other subsidiaries in the east and Canada, namely Pyrene Metal Finishers, Inc., whose plant is located at Empire Street in Newark, New Jersey, Chemical Concentrates Corporation plant located in Fort Washington, Pennsylvania, and C-O-Two Fire Equipment of Canada, Ltd. in Toronto, Ontario, Canada.

The midwest division facilities in Chicago, Illinois at nearby Blue Island, now include sales and engineering divisions, a large demonstration field, increased warehousing space and new manufacturing operations.

The former branch office and warehouse facilities in San Francisco, California have been moved to the new expanded sales, engineering and production facilities in Los Angeles, California.

S. R. Baker further stated that all Pyrene and C-O-Two sales and engineering services are now combined at direct factory branch offices in Newark, Atlanta, Chicago, Dallas and Los Angeles, to permit improved sales and service in all principal cities.

The Nolan Company, well known manufacturer of mine car dumping and control equipment, has concluded an arrangement under which it will take over production of the Phillips line of dumps and car controllers, formerly manufactured by Phillips Mine and Mill Supply Company, Pittsburgh, Pennsylvania. The Phillips name will continue to be used in connection with the manufacture and marketing of these products by Nolan.

Ansul Chemical Company, Marinette, Wisc., announces the appointment of Casa Teodoro Harth, of Lima, Peru, and Coper, Ltda., of LaPaz, Bolivia, as dealers in Ansul dry chemical fire extinguishing equipment, widely used in the petroleum industry.

Election of Carl W. Lemmerman as president of the National Noise Abatement Council has been announced by Wallace Waterfall, secretary. Mr. Lemmerman, who is president of Industrial Sound Control, Inc., Hartford, Conn., was named head of the Council at the annual meeting. He succeeds Willis L. Manning, of Chicago.

The Council also designated April 10–16 as the 1955 National Noise Abatement Week, and named Paul Washburn, of New York, a former Council president, as chairman of the Noise Abatement Week Committee.

Acme Protection Equipment Company has just moved its general offices and factory from Chicago to new headquarters in South Haven, Michigan, according to G. M. Glidden, president. This move is in line with the company's current expansion program to step up gas mask and canister production and service to Acme distributors and users. The new plant more than triples the space formerly available for production and includes a complete laboratory, dehumidified areas for storage purposes, and canister filling; production

lines on several assembly operations; gravity methods for handling liquid chemicals, and other modern facilities. Now in operation, the plant is located at 1201 Kalamazoo Street, South Haven, Michigan.

A new research and product development center has been opened in Denver, Colo. by MICRO SWITCH, a division of Minneapolis-Honeywell Regulator Company.

The new center, located at 387 Corona Street, will supplement research activities conducted at the division's main office and factory in Freeport, Ill. Wilbert Martin, assistant director of product research and development will be in charge of the new facility.

Mr. R. M. Scott, Jr., General Manager of Hose Accessories Company, manufacturers of hose couplings, valves and accessories, announces the appointment of Durrie Sales Company of Chicago as their representative in the Illinois, Indiana, and Iowa marketing area.

The headquarters of the Durrie organization is located at 605 West Washington Street, Chicago 6, Ill.

Earle D. Carson, director of safety at the Camera Works plant of the Eastman Kodak Company and widely known in safety circles, has retired after 50 years of company service. A recognized authority on safety and security laws, as well as safety regulations, devices and methods, he has been a frequent lecturer on such topics before school, college, and industrial groups and safety conventions.

Newton B. Green, general manager of Camera Works and Navy Ordnance Division, paid tribute to Carson's long Kodak service, particularly for his work in defining safety principles and in setting up a program of plant safety.

The retiring Camera Works official, who started his association with the Kodak company on Oct. 2, 1904, was also responsible for sanitation and fire protection as well as plant security. He entered safety work in 1927 when he became safety supervisor of the safety and sanitation department. He became department head in 1948 and director of safety in 1951.

He is a member and past chairman of the industrial safety group of the Industrial Management Council, the National Fire Protection Association, American Society of Safety Engineers.

The new Los Nietos Plant of Wyandotte Chemicals Corporation, J. B. Ford Division, is now in production. Located at 8921 Dice Road, Los Nietos, California, 16 miles southeast of the heart of Los Angeles, the new facility is one of the largest installations on the Pacific Coast for the production of specialized cleaning materials for business and industry. The Los Angeles District Sales Office and all of the Pacific Coast manufacturing operations have been moved to the new plant.

Injury Rates

(Continued from page 57)

screw-machine products industry showed substantial improvement—its 6-months rate dropped from 19.1 to 11.8. The high rate in 1953, however, was due largely to a disastrous explosion in April which doubled the injury rate for the industry for that month.

Other classifications showing outstanding improvement in their injury rates between the first 6 months of 1953 and 1954 were the bolts, nuts, washers, and rivets industry; insulated wire and cable; sawmills and planing mills; fabricated wire products; iron and steel forgings; miscellaneous nonmetallic mineral products; cutlery and edge tools; paperboard containers and boxes; concrete, gypsum, and mineral wool; boot and shoe cut stock and findings; steel foundries; and nonferrous foundries.

Industries recording rates of fewer than 4 injuries per million man-hours for the first 6 months of 1954 were: synthetic rubber—2.8, synthetic fibers—1.9, explosives—2.5, rubber footwear—3.3, electrical equipment for vehicles—3.8, electric lamps (bulbs)—3.0, radio tubes—3.9, miscellaneous communication equipment—2.4, aircraft manufacturing—3.1, photographic equipment and supplies—3.8.

Ebasco Safety Meeting

THEME OF THE annual safety meeting of Ebasco Client Companies this year was "Fundamentals of Accident Control." Held in Chicago in conjunction with the National Safety Congress, the meetings were attended by nearly two hundred operating, personnel and safety representatives of Ebasco client companies in this country, Greece and Latin America.

At the Annual Ebasco Luncheon, K. W. Reece, vice president of Ebasco, announced the results of the safety award program for 1953–54. Prior to announcing the awards, Mr. Reece congratulated the client companies on their steady progress in accident prevention.

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SAFETY DEVICE FOR LADDERS

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(Use Key # Z-30 on Inquiry Card on page 73)

"...within man's power"

Monumental achievements have marked each era of mankind. Within reach of future generations is the conquest of tuberculosis.

It is within man's power to eradicate tuberculosis—when you buy Christmas Seals to support your tuberculosis association you help to make this possible.

This year use Christmas Seals generously—and send your contribution today, please.

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What's New . . .

For your convenience in obtaining descriptive literature of products listed here, use the Reader's Inquiry Card. Just write in the code number given with each item. Or send written requests to:

Service Dept.,
SAFETY MAINTENANCE & PRODUCTION

SAFETY SHOE FEATURES NEW LEATHER

(Use Key # 739 on Inquiry Card on page 73)

ONE OF THE outstanding features of the "Softee," the newest addition to the Iron Age safey shoe line, is the upper leather, Resitan. This is a soft, pliable tannage impregnated w.th a new plastic resinous material. Wear tests extending over a two-year period show that it retains its softness even under severe exposure conditions. It is water, oil and acid resistant and is, therefore, an excellent all-purpose work shoe. The Softee also features Biltrite green plug Neoprene outsoles, Pacifate linings, Dacron stitching and Barbour storm welts.

NEW SAFETY PLAQUE

(Use Key # 740 on Inquiry Card on page 73)

A NEW plaque made of two-tone etched bronze mounted on a genuine walnut wood shield 10" by 10¼" is announced by Williams Jewelry & Mfg. Co.. Made up in three styles as a stock item, it is ready for immediate delivery.

Top ribbon reads: "Award of Honor" or "Award of Merit," or plain for any engraving. This makes an ideal inexpensive plant safety award and can be used to award various departments who have helped to achieve for the company the coveted National Safety Council bronze plaques. The new plaque will be illustrated in the new catalog which will be off the press by the first of the year.

ROLLING WORK TOWER

(Use Key # 741 on Inquiry Card on page 73)

A TWO-THIRDS reduction in working time was obtained on this window installation job through use of a rolling work tower with inside walk-up stairs. The tower was assembled from tubular steel scaffolding manufactured by Safway Steel Products, Inc. Work towers of almost any desired size and height can be built up from standard Safway parts to speed both construction work and maintenance of buildings and plant equipment.

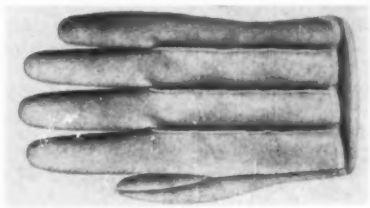
The flat-tread stairs permit men to climb easily while carrying equipment, speeding the job and greatly reducing fatigue. Efficiency is also improved by the feeling of security given by the non-skid stairs and the sturdy guard rail. The tower can be rolled on large 5-inch swiveling casters. A safety brake operating on both the wheel and the swivel locks the tower firmly at each working location. Adjustable screw jacks between the casters and the scaffold legs compensate for uneven ground.

The steel stair sections are made with goose-neck spring clamps at both ends which can quickly be clamped over cross members of the scaffold frames. A landing is provided at the lower end of each stair section. Both the landing and stair treads are perforated with holes punched up from below to give a safe, corrugated surface. The rolling work towers can be assembled in any height up to 200 ft.. Safway scaffolding is completely interchangeable, and equipment for a large rolling tower can be reused as one or more smaller towers when requirements change.

PIPE MARKERS AND SAFETY SIGNS

(Use Key # 742 on Inquiry Card on page 73)

THE ADDITION of over 7,500 new stock items used for pipe markers, container signs, chemical industry and maintenance and repair operations is announced by North Shore Nameplate Inc. Standard card size is 2¼" x 9" and furnished in various colors. Identificatior. tapes are self-adhesive, require no moistening, and are easily applied to round as well as flat surfaces. They are unaffected by cold, humidity or vibration. Mounted on special white fibre backing cards, the markers can be easily removed for instant application. Free catalog and sample upon request.



PLASTIC GLOVE THAT "BREATHES"

(Use Key # 743 on Inquiry Card on page 73)

UNUSUAL FEATURES of a new plastic-impregnated fabric glove announced by Edmont Manufacturing Co. is that it has the long-wear characteristics of plastic-coated gloves and yet the material "breathes" for worker comfort. Called the "Plax," the new glove is made of fine quality cotton impregnated with vinyl plastic. It is very durable and has an excellent non-slip grip. The material repels liquids, can be washed without shrinking, and is very flexible. Its pliability and its dress-glove design makes it especially suitable for inspecting or for handling and assembling small parts where finger dexterity is required. The glove's durability and comfort also make it suitable as a general-duty glove in many industrial applications. It is available in two women's sizes and one size for men.

OIL ABSORBENT SAMPLE

(Use Key # 744 on Inquiry Card on page 73)

WYANDOTTE CHEMICALS offers the handy, 5-ounce sample of Wyandotte Zorball pictured here with which it is easily possible to check safety and durability characteristics of this all-purpose absorbent right at your desk.

With this sample, you can determine how well Wyandotte Zorball, either dry or wet, resists breakdown and retains its anti-slip qualities as an absorbent for oily or slippery floors.

BUILD-IT-YOURSELF GUARDS

(Use Key # 745 on Inquiry Card on page 73)

SAFETY guards for gears, belts, flywheels and all moving parts of machines, as well as guards for individual punch press dies, can be quickly made at low cost by the use of standardized guard parts manufactured by the Harrington & King Perforating Co. It is said that the only tools required are a screw driver, hammer, hand snips and a hack saw so that guards can be designed, assembled and installed right at the point of use. This saves the cost and delay of drawings and outside fabrication. When properly made these guards will receive full approval of state and insurance inspectors.

Individual punch press die guards when constructed of 5" or 6" wide standardized slotted strips of 1/16" steel are fully effective. For the building of guards around belts, gears and moving parts the following standardized parts are supplied: perforated steel sheets; steel perforated angles and bands; steel perforated corner gussets for assembling frames; and malleable sockets used as feet for floor mounting and fitting over matching floor posts for positive positioning.

Perforated angles and bands are cut to proper length and assembled into sturdy frames with bolted or riveted gussets. Then the frames are covered with a strong easily cleaned perforated sheet and the guard is ready for installation on the machine or floor mounting.

CARBON REMOVER

(Use Key # 746 on Inquiry Card on page 73)

DESIGNATED AS ECR-18 Carbon Removing Compound, this new product, of the United States Air Force Specification 20043A type, emphasizes decarbonizing efficiency and safety. It is the orthodichlorobenzane-cresol type formulation, intended for heavy duty aircraft, diesel and motor truck engine parts cleaning in either hot or cold tank systems, according to John B. Moore Corp.

Chromate inhibitors, common to carbon removers, have been substituted by equally effective, but less toxic, types. Though intended for use with water-layer, the product is shipped without water and is still adequately inhibited against attack on containers thus assuring unlimited storage "shelf" life. Available for shipment in 54 gallon non-returnable drums and 5 gallon drums.

EXPLOSION-PROOF FOOTSWITCH

(Use Key # 747 on Inquiry Card on page 73)

FOR USE IN industrial and scientific process areas where explosive fumes are present, the new Levinthal Model 3 Footswitch offers a construction comprising in its entirety Underwriters' Laboratory-approved components for Class I, Group C & D; and Class II, Group E, F, & G hazards.

Electrical ratings of the unit for alternating current include uses up to 15 amperes at 125, 250, or 460 volts. Direct-current ratings are ½ ampere at 25 volts, ¼ ampere at 250 volts. Contacts can be connected for either normally-open or normally-closed operation.

The new footswitch is of grounded construction, and is supplied in standard form with a 15-foot Type S cord and a 3-prong male plug.

HEAT SHIELD

(Use Key # 748 on Inquiry Card on page 73)

A NEW open hearth faceshield has been announced by the Safeguard Industrial Equipment Co. for use in steel mills and general industry where the worker's face and head must be protected from extreme heat conditions. The shield consists of a reinforced fibreglas frame, a ratchet-type adjustable headgear, and a large-size copper screen window. The shield is also supplied with a hood to cover the top of the head and the back of the neck, when this additional protection is needed.

NEW LINE MARKER

(Use Key # 749 on Inquiry Card on page 73)

A NEW Florline Marking Machine, called the Upright Model, has been developed by the H. C. Sweet Company. This machine which makes safety and parking lines is now designed with a new 2-wheel assembly attached to the barrel. This helps the operator make straight lines at faster speeds since the supporting wheels keep the machine "on track" with practically no effort and a minimum of direction from the operator.

Upright when in use and upright when parked, the new unit has the special operating advantages of heavier power machines while maintaining the maneuverability, lightness of weight and portability of 2-wheel models. It carries the full weight-load and is adjustable to the operator's ideal height.

A slight lift of the handle raises the brush to allow the machine to make skip lines or be wheeled to other areas. Deliberate steering of the retractable guide-wheel to right or left makes the curved lines. It is easily converted to a 2-wheel machine for narrow, crowded areas.

TERRAZZO FLOOR SEALER

(Use Key # 750 on Inquiry Card on page 73)

A NEW TYPE floor finish for use on terrazzo, marble, ceramic tile and similar floors has been developed by S. C. Johnson & Son, Inc., and will be known as Johnson's Terra-New Terrazzo Seal. This new wax-base finish is a special formulation which the makers claim will make the deep-down colors glow with new life. Its sealer properties prevent dusting and blooming, and protect floors against the penetration of water and stains.

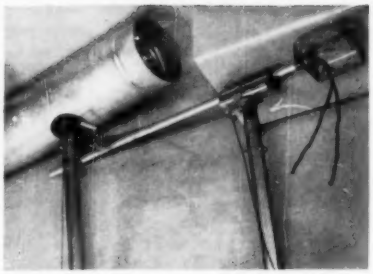
The sealer is renewable and if the finish wears down in heavy traffic lanes it is not necessary to reseal the entire floor. Worn spots can be touched up with Terra-New and polished to blend with the rest of the floor. The finish is colorless and so will not discolor even the lightest floors. It produces a high gloss but does not make the floor slippery. The company also says that a floor is easier to maintain because dirt and water-borne stains do not imbed. Coverage is approximately 1,500 square feet per gallon. The new product has been field tested in hospitals, schools, stores, hotels and fire stations in five cities.

CLEANER CONCENTRATE

(Use Key # 751 on Inquiry Card on page 73)

A NEW PRODUCT, Bendix Econoclene, has been announced by Bendix Products. It is a low-priced cleaner concentrate that can be used to do hundreds of cleaning jobs in the shop and factory. The multi-purpose cleaner concentrate mixes readily with water, solvent or kerosene and can be used hot or cold in any proportion to suit the specific cleaning requirement. In addition to use in "soak" or "agitated" tanks, cold Econoclene solution can be brushed or sprayed on large or small surfaces and flushed clean with cold water. In hot tanks, diluted with water, it is an effective, economical cleaner of many uses.

One gallon of the concentrate will make as much as eleven gallons of cleaner. It is conveniently packaged for the small shop or large volume user—available in quarts, gallons, five gallons and 50 gallon drums.



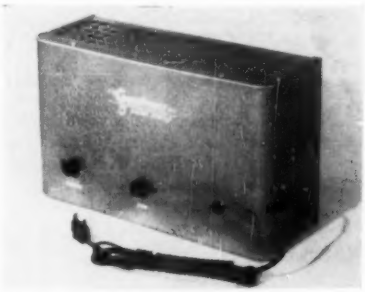
MAINTENANCE EXTENSION TOOL

(Use Key # 752 on Inquiry Card on page 73)

"THE SPACE ARM" is an adjustable boom for raising and holding in place pipes, conduits, fixtures, sheet metal duct or almost anything up to 25 lbs., that is to be secured to the overhead. On each end of this boom are clamping devices that can be attached to or released from articles by remote control. The Space Arm, made by Lamp Snatchers Co. holds the article firmly until the last nail or screw is in place, then it can be released quickly.

On one end of the boom is a clamp that grips pipe up to 1½". This clamp opens or closes quickly by rotating the boom. The clamp is also a changer for all size slimline lamps and will hold a sponge for cleaning reflectors, etc. On the other end is a vacuum cup for gripping flat or curved surfaced articles, or for changing incandescent lamps, 10 to 1500 watts, including flat bottoms. Another head is available that makes the tool a changer for fluorescent lamps and starters. All heads are interchangeable. The boom extended from floor to ceiling makes an ideal standard for temporary lights, photo flash lamps, screens, displays, etc. Movable rings for attaching articles are furnished. The boom may also be used horizontally between walls or for shoring, and for retrieving articles in difficult places.

The standard boom adjusts from 8 to 15 ft. and on special order can be made up to 30 ft. It is light and sturdy and will be found useful by electricians, pipe fitters, sheet metal men and maintenance men in all lines.



ELECTRONIC MACHINERY GUARD

(Use Key # 753 on Inquiry Card on page 73)

A NEW, "fail safe," low priced, compact safety device for preventing bodily harm to operators of machinery has recently been developed by R. G. Genzlinger, Inc. The device, called the Silent Sentry Model TGS 150, will stop or change a machine or operation immediately if a person moves into the "protected area." This prevents the loss of fingers, limbs or life on all types of automatic machine tools and equipment, power presses and belt line assembly systems having cutting blades, inrunning rolls, hammers, drills and similar dangerous mechanisms. Operators are always certain of protection for if the power source or any internal part of the Silent Sentry should fail, machinery will stop immediately and remain stopped until the trouble is remedied.

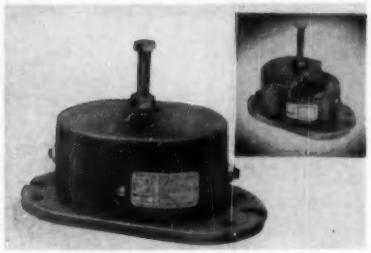
The device is antenna equipped, the antenna being used to form the sensitivity pattern about operating machinery. The pattern may be set to safeguard a limited area or a large area and sensitivity of the antenna can be adjusted so that a body approaching to within twelve inches of the "pick-up" plate will actuate the Silent Sentry which in turn will stop a machine. The Model 150 operates from a 117 volt a.c. 50-60 cycle voltage source and its output has both normally open and normally closed contacts so that an external circuit can be used to stop or start machinery and operate other devices. The contacts will handle a non-inductive load of 5 amp 117 volt a.c.

NEW WARNING SIGNAL

(Use Key # 754 on Inquiry Card on page 73)

THIS Warning Signal is portable and may be transferred from one location to another instantly. Available from General Scientific Equipment Co., it is for use at plants, factories, dangerous crossings, accidents, emergency repairs, theatres, schools, churches, factory exits, street repairs or any other place that a portable warning signal may be needed.

The Standard Warning Signal consists of a flashing amber light that may be seen from any angle. Powered by a storage battery which is automatically recharged with a built-in charger. It is portable and mounted on heavy 8 inch rubber tired wheels and is so balanced that it can be moved easily. The unit is made of heavy gauge steel with a baked enamel finish. The word SLOW in large letters appears on all four sides.



VIBRATION ISOLATORS

(Use Key # 755 on Inquiry Card on page 73)

TYPE SF, a fully enclosed spring type vibration isolating unit, has recently been introduced by Vibration Mountings, Inc. The unit is of telescopic construction, fully enclosed in semi-steel housing. The steel spring mounting, with chrome vanadium springs, permits greater deflections necessary for high isolation efficiency. The units offer increased carrying capacity without increase in physical size. They come factory pre-set, but may be readjusted at any time in the field.

Semi-steel housings of telescopic construction result in a complete enclosure of all working parts. Oil, wastes, cuttings, etc. cannot clog springs or working parts. Resilient guides contained within upper portion of housing are completely protected from floor oil drippings, dirt, waste, etc. These resilient guides offer all-direction snubbing and damping.

Inspection windows permit checking of adjustment and operation. Complete installation and adjustment instructions are permanently affixed to each unit. Additional features include: combination adjustment and leveling bolt for loading springs and leveling isolated equipment, lock nut for securing machine base, convenient anchor-bolt slots, auxiliary anchor bolt holes for straddling beam web, safety bolts to prevent separation of upper and lower housings, positive all directional snubbing and damping controls at each end; making these type SF units particularly suitable for punch presses, compressors, mills, engines, similar rotating and reciprocating machinery.

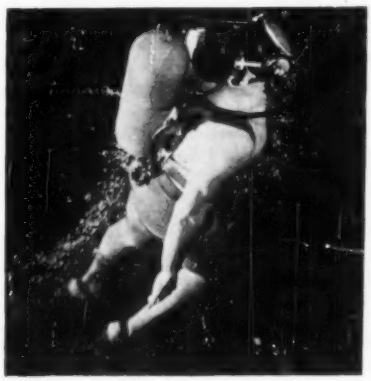
SMOKE DENSITY INSTRUMENT

(Use Key # 756 on Inquiry Card on page 73)

A NEW instrument to aid in compliance with smoke control laws is offered by Mine Safety Appliances Co. Called the "MSA Smokescope," it can be used to determine whether or not fuel is being properly burned to gain full BTU advantage, since excessive smoke indicates it is not. In this respect, industry can put the Smokescope to work for greater efficiency in addition to improving its community relations through air pollution.

With the unit, observers are able to view a standard reference disk, shaded to correspond with degrees of smoke density, against the background of a smoke plume. Light from the area adjacent to the stack is transmitted through one tube of the instrument and through the reference film disk inside the tube to a front surface mirror. Reflected by the mirror, it passes through a lens to an image mirror where it may be directly compared with the smoke as seen through the other tube of the instrument. The reference film disk is placed at the focal point of the lens, and thus has the effect of placing the light rays reaching the eye in a parallel position. Film area is small and acts as a point source.

The design of the instrument eliminates possible interference of ambient light because the viewer sees the smoke through apertures which limit the field of vision to the subject. And there is no necessity, as in former methods, to shift the eye from smoke to chart, since the chart, in the form of the reference film disk, appears against the smoke being viewed.



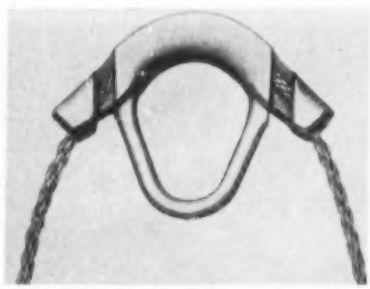
UNDERWATER REPAIR EQUIPMENT

(Use Key # 757 on Inquiry Card on page 73)

A NEW UNIT called the Scott Hydro-Pak, a self contained breathing unit for use in underwater inspection, salvage, maintenance or repair work, has been introduced by Scott Aviation Corp. Other uses include recovery of property lost underwater, water rescue and underwater cleaning operations. It requires little instruction and no complicated training for efficient use.

The equipment features a full face mask for comfortable, natural breathing through nose or mouth. A large, safety-glass "picture window" permits a wide, clear field of vision. Without eye protection everything appears foggy underwater, but through the viewplate vision is as distinct as on land. Automatic air regulators located at both sides of the mask permit *easy* breathing in any *position*. This regulator is basically the same as the Scott Demand Regulator used on Scott breathing units for industry, aviation, and the fire service.

Other features include an "Air Economiser" for conserving the compressed air supply while wearing the Hydro-Pak above water. The unit also features a full back plate, air reserve mechanism, water ejection button, and a short, tough breathing hose that's out of the way where it can't snag or interfere with freedom of movement. Sales, service and recharging facilities from coast to coast are available through the company's regular distributors.



SLING BRIDLE

(Use Key # 758 on Inquiry Card on page 73)

TO CUT sling costs and do the job more efficiently, the field tested and Pat. Pend. (R) Newco Sling Bridle converts a conventional sling to a two-leg bridle sling. This eliminates the necessity of a pear link with two costly eye splices.

Since the tapered groove of the Sling Bridle firmly grips the sling, there can be no load slippage even when the load is unbalanced. The legs of the bridle sling are quickly and easily adjusted or equalized for the different loads. Thus one sling can do several material handling jobs. The unit takes the wear from crane and hoist hooks and eliminates sling kinks and severe abrasion.

SPRAY CLEANER

(Use Key # 759 on Inquiry Card on page 73)

A SPRAY TYPE cleaner that combines solvent, wetting agent and alkaline as a multi-phase cleaner is announced by the Van Straaten Chemical Company. The new cleaner, Vantrol 5618, is especially effective on steel, according to initial use in plants where it has been field-tested.

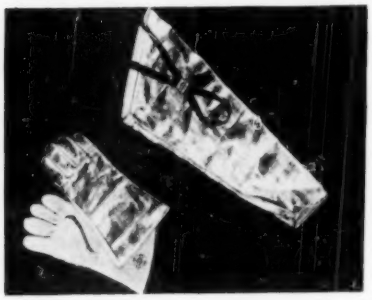
In addition to its effective removal of shop and mill oils, drawing compounds and heavy greases, the new industrial washing machine cleaner also protects against rust, will not coat a machine with the oil removed from the parts, will not clog nozzles, is non-foaming and is said to be unusually fast in cleaning.

The new cleaner is free flowing, nondusting, non-caking, and non-flammable. It is normally used at from a half to two ounces per gallon. When used at a quarter ounce per gallon in the rinse, it gives steel adequate rust protection. Furthermore, the developers state the product is not toxic and will not irritate operator's hands under normal conditions.

NON-SLIP FLOOR POLISH

(Use Key # 760 on Inquiry Card on page 73)

DESCRIBED AS A "no buff, no scuff" safety floor polish is Legsure, newest product of the Walter G. Legge Company. Said to be suitable for all types of resilient floors, the polish dries to a long-lasting lustre without buffing. It resists scuffing even under the daily punishment of shifted furniture, high heels and heavy workmen's shoes, and is dirt and water repellent. Underwriters' Laboratories lists the polish as slip-resistant.



HEAT REFLECTIVE CLOTHING

(Use Key # 761 on Inquiry Card on page 73)

A NEW LINE of aluminized clothing has been brought out by Wheeler Protective Apparel, including complete firemen suits, gloves, leggings, sleeves, aprons, helmets and many other items where a high degree of protection from heat and radiant energy is required.

The new line is made from Underwriter's grade, herringbone-weave tropic-weight asbestos which is treated to give it an aluminum coating. Garments made from this aluminized fabric are highly pliable, and have good durability and abrasion resistance. This coating on the garments reflects 90% of all radiant energy, making it possible for workers to stay on the job longer with fewer cooling off periods. Aluminizing makes possible the use of a lighter weight asbestos, which greatly lessens the weight of the garments and reduces fatigue. No "wetting down" is necessary in hot jobs. Metal splash will not adhere to the aluminized finish.

The high heat operations in which aluminized asbestos garments have been used successfully include: steel yard burning, heat conditioning, open hearth ladling, flanging, furnace bed observing, slagging, gate cutting, hot conveyor repairs, and fire rescue. Personnel in other jobs who can benefit from the new garments include: brick layers, tappers, keepers, second helpers and locomotive crew workers. Other applications will no doubt suggest themselves to firms with other high heat problem operations.

WHITE NEOPRENE GLOVE

(Use Key # 762 on Inquiry Card on page 73)

DEVELOPMENT and manufacture of a new white neoprene glove, which the Charleston Rubber Co. states is the first perfected, truly white, all-neoprene glove on the market, has been announced. This latest product of the company's industrial division is called NEO-SOL.

This white, sanitary-appearing and thoroughly practical glove is especially suitable for use by food manufacturers, processors and handlers, and those who need

white neoprene gloves for handling of chemicals. Made of neoprene, the glove offers such utilitarian features as extra long life, resistance to abrasion, snagging and puncturing; also superior hand protection against irritating, corrosive and dangerous chemicals. It will not discolor chemicals, liquids or fabrics.

The white glove has a red roll at the cuff and a red inner lining. It is made with curved fingers, for easy, natural use, and is available with either "Grip-Saf" hand or smooth finish. It is manufactured in several sizes, weights and lengths.

The combination of the glove's white exterior and red interior will eliminate the danger of contamination when some food plant workers reverse gloves in wearing, thereby exposing handled food to the glove's interior that had been in contact with the worker's hands.

ASPHALT SEALER

(Use Key # 763 on Inquiry Card on page 73)

A NEW LIQUID material which protects and preserves asphalt and black top surfaces is announced by The Monroe Company, Inc. known as Black Top Seal, it is applied in a thin coating over new or old surfaces to form a smooth, tough, waterproof surface. It is said to protect against abrasion, frost damage, blisters and deterioration. Unaffected by sun and extreme temperatures and impervious to oil, grease and gasoline, the product is recommended for preserving loading docks, traffic aisles, black top driveways, roads, parking lots, airport runways, etc. The material is also said to withstand hard wear and heavy traffic and to at least double the effective service life of bituminous pavements. It can be brushed on easily.

What's YOUR Problem?

- **Has an accident or fire interrupted production?**
- **Want to know how to prevent it?**
- **Do you need background information on equipment for industrial safety, hygiene, or maintenance?**

As a service to its readers, "Safety Maintenance" will arrange to supply manufacturers literature on the following subjects. Just insert the key number on the Readers Inquiry Card on the opposite page and be sure to fill in your name and address. If you need information on a specific type of product, simply write it in on the Inquiry Card.

Key Number	Subject
101	Safety Goggles
102	Face Shields
103	Lens Cleaning & Anti Fogging Equipment
104	Sweatbands
105	Hard Hats
106	Respirators & Masks
107	Protective Clothing
108	Women's Protective Clothing
109	Safety Belts
110	Safety Gloves
111	Safety Toe Shoes
112	Safety Boots
113	Wooden Sole Shoes
114	Anti-Slip Soles
115	Oil-Proof Soles
116	Welding Helmets
117	Welding Curtains
118	Protective Skin Creams
119	Skin Cleansers & Soaps
120	Hand Drying Equipment
121	Sanitary Drinking Cups
122	Athlete's Foot Control
123	Salt Tablets
124	Noise Control
125	Antiseptic Medication
126	Burn Medication
127	First Aid Kits & Supplies
128	Stretchers & Litters
129	Resuscitators
130	Portable Ventilators
131	Dust & Fume Collectors
132	Carbon Monoxide Control
133	Fire Extinguishers
134	Safety Cans
135	Fire Pump Equipment
136	Alarms & Warning Lights
137	Safer Solvents
138	Flammable Liquid Pumps
139	Explosion-Proof Lights
140	Safety Gasoline Tanks
141	Anti-Slip Flooring
142	Anti-Slip Waxes & Finishes
143	Floor Cleaning Products
144	Floor Machine Equipment
145	Oil & Grease Absorbents
146	Paints
147	Ladders & Safety Devices
148	Scaffolds
149	Work Platforms
150	Fluorescent Lamp Guards
151	Machine Guards
152	Power Press Feeders
153	Safety Signs
154	Aisle Marking Equipment
155	Safety Awards & Emblems
156	Employee Safety Guide
157	Hand Tools

FREE BULLETINS & CATALOGS

As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE & PRODUCTION. To obtain copies write in the key numbers on the free-postage card below.

PERSONAL PROTECTION

Insulated Footwear 534
Beacon Falls Rubber Footwear. Cold-weather rubber footwear insulated with a cellular interlining to retain body warmth is featured in this 4-page bulletin. Illustrated styles include a high-cut pac, buckle gaiter, women's gaiter, and a plastic foam insulating sock. Also shown are many types of rubber or neoprene boots, pacs and shoes with safety toes.

Linemen's Rain Suits 535
John E. Dorsey Co. This 1955 catalog offers clothing for utility, railroad, highway and other outdoor workers to protect them from wind, rain, sleet and snow. Included are lightweight, waterproof fabric jackets and suits; wool jackets; rubber or neoprene suits, overall, hats, coats, boots and pacs.

Interchangeable Respirators 536
Willson Products, Inc. Single and double cartridge style respirators are illustrated and briefly described in this mailing piece. Cartridges and filters for various contamination hazards are completely interchangeable, so that the basic mask can be used in many different types of locations.

Synthetic Rubber Gloves 537
Surety Rubber Co. An informative folder that describes protective gloves with high resistance to rubber-solvent chemicals, acids, snagging, and abrasion. Results of laboratory tests are included, as well as full data on the several styles available.

Fire & Heat Protective Clothing. 538
Far-Ex Corp. A colorful folder introduces one of the newer lines of aluminized fabric clothing, to shield industrial workers and firemen from flame and heat. Emphasized is the fact that various types of aluminized clothing are available according to occupational needs. Models shown include: coverall, hoods, coats, trousers, faceshields, vests, aprons, sleeves, leggings, gloves.

Safety Hats & Welding Helmets 539
Jackson Products, Inc. This bulletin shows a line of fiber glass plastic hats, caps and welding helmets to shield the wearer from falling objects, impact hazards and welding spatter. Featured are two styles of cap-and-helmet combinations.

WARNING SIGNS

Aisle & Traffic Markers 540
Sargent & Sowell, Inc. This illustrated 6-page folder shows various types of equipment for marking floors and streets; a paint marker for painting aisle lines, cross walks, parking lines, etc.; aluminum stencils for painting giant-letter warning signs on pavements; steel or cast iron traffic buttons for cross walks or lanes; concrete street markers; traffic lights.

Fire Warning Signs 541
Stonehouse Signs, Inc. Various types of painted metal signs for fire hazards and protection are shown in this fully illustrated bulletin. Specifications and prices included.

MAIL POSTAGE PAID CARD FOR MORE DATA

Self-Sticking Caution Stripes 542
W. H. Brady Co. Diagonal yellow and black stripes are the recognized means of highlighting knock-against and moving-object hazards. This bulletin shows how adhesive marking tapes, printed in yellow & black stripes can be quickly applied to low or narrow areaways, elevator gates, pillars, cranes, trucks, lift trucks, etc.

Traffic Markers 543
Armor Flex Traffic Products. Flexible, laminated plastic markers that can be attached to the floor with a special cement are described in this bulletin. It shows how the rectangular-shaped marker can be used to form lines, patterns or even words for marking plant and warehouse floors.

LIGHTING & ELECTRICAL EQUIPMENT

Swivel-Mounted Lights 544
Swivelier Co., Inc. This fully illustrated bulletin shows a wide variety of incandescent and fluorescent lights that are swivel-mounted for easy positioning as the work requires. Suitable models are included for benches, laboratories, machines, desks, etc.

Emergency Generators 545
Katolight corp. Emergency generator units for supplying power are shown in this bulletin. Model shown is for hookup to an engine belt drive.

BUILDING MAINTENANCE

Floor Resurfacer 546
Stonhard Co. This folder describes "stoncap," a resurfacer that can be applied to concrete, wood, steel, asphalt, brick or composition floors. A quarter-inch of the material will make a smooth and safe surface over worn, cracked and rutted floors, and is especially recommended for concrete floors ruined by grease, oil and food acids.

Paint Stripping Chart 547
Wyandotte Chemicals Corp. A large application chart for paint strippers shows at a glance the type of product, what it should be used on, how used, special features, and when to use it.

Scaffold Jacks 548
Waco Mfg. Co. This catalog sheet describes and illustrates various models of a light weight portable scaffold jack. It shows how the basic design permits adjustment to meet many temporary scaffold erection problems.

Good Operating Practices 549
Johns-Manville. This 12-page brochure contains 101 suggestions for maintaining plant buildings & equipment. It shows how to get the best service out of insulations, packings, refractory products, roofings and friction materials.

MEDICAL & FIRST AID

Audiometric Testing Rooms 550
Industrial Acoustics Co., Inc. Prefabricated soundproof rooms or booths are the subject of this illustrated folder. Suitable for use in testing the hearing of employees or

SPECIAL OFFER BELOW VALID ONLY FOR THREE MONTHS AFTER PUBLICATION DATE.

READER'S INQUIRY CARD

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DECEMBER 1954

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Free Bulletins (Cont'd)

enclosing noisy machinery. Full specifications are given and folder shows how units can be used.

Adjustable Splints **551**
Barwell Mfg. Co. Illustrated folder describes telescoping adjustable splints made of aluminum and designed to permit easy transportation of a patient with a leg fracture. Bulletin also shows accessory equipment: foot rest, traction strap, carrying case.

DUST & FUME CONTROL

Mercury Decontaminator **552**
William M. Stieh & Co., Inc. This bulletin describes a method of reducing mercury vapor by applying a special decontamination product to all surfaces exposed to metallic mercury, mercury salts, etc. Dry and wet methods of application are outlined.

Fume Washer **553**
U. S. Stoneware Co. This 4-page bulletin describes and illustrates a portable fume washer to remove fumes from plants and laboratories. Includes technical data, drawings, performance charts, and dimensional information.

FIRE PROTECTION

Automatic Fire Alarm **554**
Fyr-Larm Co., Inc. An automatic fire alarm whistle, listed by U. L., is described in this 4-page bulletin. The self-contained unit requires no wiring, and sounds when temperatures reach a predetermined level. Suitable for factories, stores, homes, schools, trucks, etc.

Magnetic Separators **555**
Eriez Mfg. Co. This new 16-page catalog shows a complete line of permanent magnetic separators to remove tramp iron in processing machinery so that static sparks will not be struck, machinery not damaged, and the product not contaminated.

MISCELLANEOUS

Ladders **556**
Duo-Safety Ladder Corp. A well illustrated folder showing both wooden and aluminum ladders. Safety and construction features are emphasized and many different types of ladders are described.

Welding Safety Film **557**
Air Reduction Co. This illustrated folder offers information on a welding safe practices movie, "The Guy Behind Your Back." The folder also shows the safety equipment needed for welders to work safely.

Less Toxic Solvent **558**
Tect, Inc. This technical bulletin gives basic information on a general-purpose chlorinated solvent of low toxicity. The bulletin points out its non-flammability and non-corrosion features, gives typical uses, and physical data.

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CESCO RIGHT... before your Eyes!

Auxiliary Filters

PREVENT CLOGGING OF CARTRIDGES

Auxiliary cellulose filters, now available for the CESCO No. 99 ORGANIC VAPOR RESPIRATOR, prevent the clogging of cartridges during paint spraying operations. Together with the dual 85 cc cartridges they provide high absorptive capacity and low resistance to breathing.

These low-priced filters are easily attached by merely unscrewing the cartridge retaining ring. Filter pad and retainer are placed over cartridge, and ring is screwed back on. It's quick, and no tools are required.

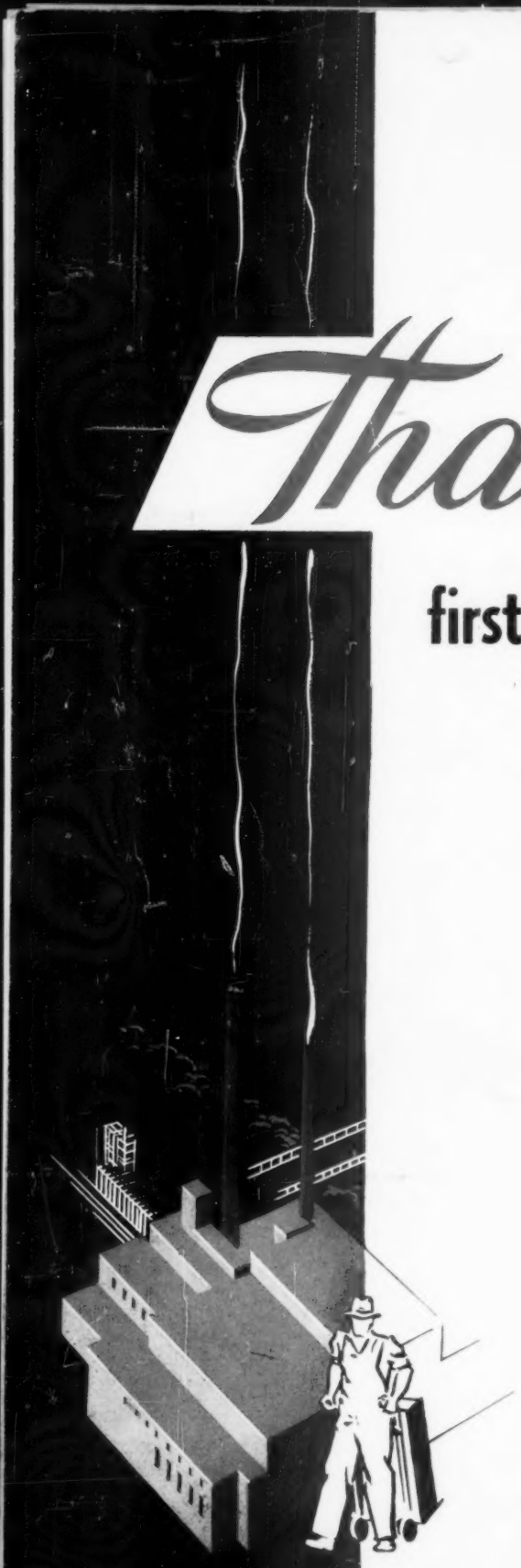
The "double-duty" CESCO No. 99 Respirator has a soft rubber facepiece which provides a snug, leakproof fit with minimum headband tension. Eye protection may be worn conveniently as the respirator sets low on the face.

Order from your nearby CESCO safety equipment distributor or write us for further information.

CHICAGO EYE SHIELD COMPANY • 2310 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

(Use Key # Z-31 on Inquiry Card on page 73)



Thantis® LOZENGES

first aid for throat irritations

SORE THROATS due to coughs and colds, if neglected, may result in lost man hours of work.

THANTIS® Lozenges contain no antibiotic; they produce no unpleasant by-reactions in the mouth.

THANTIS Lozenges relieve pain promptly—reduce infection—act prophylactically.

Twenty-three years' extensive clinical and lay use has proved the safety and effectiveness of this popular product.

® *Reg. U. S. Pat. Off.*

Mercurochrome®

First aid for wounds . . .

Neglect may cause infection which can be prevented by prompt use of 'Mercurochrome.'®

No antiseptic has been proved to be more effective than 'Mercurochrome' for topical application.

HYNSON, WESTCOTT & DUNNING, INC., H&D BALTIMORE 1, MARYLAND

(Use Key # Z-32 on Inquiry Card on page 73)